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ABSTRACT

This primary education curriculum guide was developed jointly by the Iowa and Nebraska Departments of Education to provide educators with a coherent framework to guide local planning for reform of educational programs for children at the kindergarten and primary level. Adapted from the British Columbia Primary Program, it stresses developmentally appropriate practices, multicultural education, partnerships with parents and communities, and curriculum integration. The first section outlines the guiding principles of the volume, discussing the philosophy behind the curriculum and considerations for implementation, and offering position statements on such topics as family involvement, group learning, and evaluation. The second section discusses the goals of the program in relation to students' emotional, social, physical, and artistic development. The third section emphasizes the importance of understanding the context of primary education, exploring the need for and implementation of educational reform, partnerships with families and communities, and transition programs for children. Section 4 examines assessment and evaluation, discussing the strengths and weaknesses of different assessment vehicles. Section 5 contains curriculum outlines in the areas of integrated curriculum, multiculturalism, fine arts, language arts, social studies, responsible living, physical education, mathematics, and science. The sixth and final section addresses the role of integrated studies in primary education. Each section contains reference and resource lists. (MDM)

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The Primary Program

ED 367 447

Growing and Learning in the Heartland

A JOINT PROJECT OF THE

Nebraska Department of Education
Iowa Department of Education
Iowa Area Education Agencies
Head Start-State Collaboration Project

Adapted from the British Columbia Primary Program, Ministry of Education, British Columbia, Canada

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The *Iowa Supplement* to the *Primary Program*, including the guidelines for Iowa Early Childhood Programs, is available upon request from:

Iowa Department of Education
Office of Educational Services for Children, Families and Communities
Early Childhood
Grimes State Office Building
Des Moines, IA 50319-0146

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*Dedicated to children and teachers who
celebrate learning and find wonder
every day in their lives.*

Foreword

The impetus for this project grew out of similar needs in the states of Nebraska and Iowa for a coherent framework to guide local planning for reform of educational programs for children in the kindergarten/primary level of schooling. The Departments of Education in Iowa and Nebraska chose to adapt the British Columbia Ministry of Education *Primary Program* for use in the schools of Nebraska and Iowa because it is consistent with each state's overall reform initiatives and because it represents the best of what is known about how younger elementary-aged children grow and learn.

A team of Iowa and Nebraska educators reorganized and revised the British Columbia documents to reflect American examples and common practice. For example, a section in one of the original documents on French language immersion was omitted and American spelling was incorporated throughout the Nebraska-Iowa revision. Some new materials on multicultural education, partnerships with parents and communities, and integrating curriculum were also incorporated.

More than any other level of schooling, the early years benefit from an extensive body of research on best practices which have been synthesized by leaders in the field into a relatively coherent, methodological framework. In recent years, that framework is often called *developmentally appropriate practice* because it draws upon the base of knowledge about child development to suggest effective strategies for working with young elementary-age children. Developmentally appropriate practice is not a unitary concept; it can be represented in a fairly wide range of individual teacher and school approaches and is not limited to the early childhood years. More and more the term is being used at all levels.

In addition to a recognition that learning opportunities for children must be both age and individually appropriate, a developmentally appropriate program recognizes that:

- Children construct their own knowledge;
- The physical and interpersonal environment supports the program's learning goals;
- Learning activities must be active rather than passive;
- Language develops best in a social context;
- Inclusive programs expand opportunities for all children;
- Families must be more fully involved as partners with schools;
- Honoring children's cultural backgrounds helps them maintain and build self-respect and honor the culture of others;
- Appropriate assessment strengthens learning and teaching; and
- The health of the social context contributes to learning.

This document will validate the work of many teachers and administrators who have been leaders in primary level reform in the two states over the past decade. For others, this document will suggest the need for a major shift from their existing approaches. Please use it carefully. Its developers do not expect that it will transform schools overnight. It is intended to support teachers and administrators as they are ready to explore healthy ways to structure learning settings for children in these critical years.

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For their involvement and support of this project, we sincerely thank our many participants.

In Iowa . . .

The Iowa Area Education Agency Educational Services Directors provided initial funding for the project. Through partnerships, cooperation, and continuous efforts of the early childhood consultants and specialists in the AEA/DE Early Childhood Network, the *Primary Program* was refined and completed.

The *Primary Program* reflects the contributions of many colleagues in the Iowa Department of Education, including Dr. Sue Donielson, Dr. Marc Haack, Mr. Ted Stilwell, Dr. Leland Tack, Mr. Roger Stirler, Ms. Donna Eggleston, and the early childhood education support staff, Helen Clay, Margaret Edwards, and Marcia Stanley. Consultants in the various bureaus throughout the Department, the members of the Iowa Child Development Coordinating Council, and early childhood reviewers in Iowa communities have contributed their time and energy.

In Nebraska . . .

The Head Start-State Collaboration Project provided initial funding for the project in connection with its goal to promote more effective transitions for children from prekindergarten programs into the elementary school. Nebraska Head Start directors have been most generous with their support and encouragement for the project. Educational Service Unit 3 contributed to the effort in numerous ways, but especially through the outstanding leadership of Susan Johnston, project coordinator.

The staff at the Early Childhood Training Center have worked tirelessly to make this project a success.

Members of advisory bodies with which we interact and colleagues within the Department of Education and around the state have also encouraged us with their support and assistance; specifically we mention the Early Childhood Task Force of the State Board of Education, the Child Care and Early Childhood Education Coordinating Committee, and the Early Years Task Force of the Nebraska Council of School Administrators. Individuals include Dr. Doug Christensen, Dr. Marge Harouff, Ms. Sharon Meyer, Ms. Ann Masters, Dr. Claudia Carter, and Ms. Carolyn Dietz of the Nebraska Department of Education, and Dr. Norma Sue Griffin at the University of Nebraska-Lincoln.

From British Columbia . . .

The Ministry of Education gave us a special gift by granting permission to adapt their materials. There is no way to fully acknowledge their generosity. As the project moved along, individual colleagues in British Columbia have been encouraging and helpful. We look forward to additional opportunities to work together with Lois Blackmore, Marlene Dergousoff, and Colleen Politano.

Iowa and Nebraska together . . .

The Editorial Team has "made it theirs" in a way never envisioned by the planners. Since the beginning of the summer of 1992, they have contributed hundreds of hours of time and the fruits of their extensive knowledge of primary education.

And finally we want to record in the document how much as have benefited personally and professionally from this opportunity to work together. Without one another, this dream would not have come true.

Susan Andersen
Susan R. Andersen
Iowa Department of Education

Harriet A. Egertson
Harriet A. Egertson
Nebraska Department of Education

> *If one is lucky,*
> *a solitary fantasy*
> *can totally transform*
> *one million realities.*
>
> Maya Angelou

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March 1993

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DEPARTMENT OF EDUCATION
WILLIAM L. LEPLEY, Ed.D., DIRECTOR

Spring , 1993

Dear Colleague:

The early years are immeasurably important to a child's future success in learning. The early years can create a love of learning that lasts a lifetime.

In Iowa, the State Board of Education and the Department of Education are committed to early childhood education to help ensure children's readiness to learn. The State Board's strategic plan includes the goal that every child in Iowa will be able to take part in a developmentally appropriate early childhood education program. In addition, the plan supports creation of a comprehensive early childhood education system for the state.

Our children need high quality programs if they are to develop to their greatest potential in their formative years. The Primary Program can be a valuable resource. It is a model for districts to use in developing local early childhood philosophies and programs.

The Ministry of Education in British Columbia, the Nebraska Department of Education, the intermediate education service agencies, the editorial teams in Iowa and Nebraska, and the Early Childhood Network have created a clear vision of what early childhood education can become in the 21st century. They deserve the gratitude of everyone who cares about young children.

Sincerely,

Wm L. Lepley

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Spring, 1993

Dear Educators,

The educational reform now taking place at national, state, and local levels differs in many ways from earlier efforts. There is strong emphasis on the student as a active participant in the learning process; in the importance of designing learning environments to meet the needs of all students in inclusive settings; and, in the importance of ongoing assessment linked to the curriculum as a tool for continually examining the effect of schooling on the learner. There is also a growing understanding of the importance of the early years and of the unique learning needs of children in the early childhood period of development (birth through age 8).

In Nebraska, reform is underway in many local schools/communities. At the state level, educational change is being shaped by the implementation of the High Performance Learning model. With its emphasis on quality learning, equity, and accountability, it strongly parallels what is happening at the national level. The Primary Program interprets the High Performance Learning model for the early elementary years. It builds upon the Nebraska Department of Education's long history of promoting developmentally appropriate curriculum and assessment in the kindergarten/primary level of schooling.

We are especially grateful to our colleagues in British Columbia for sharing their exemplary work with Nebraska and Iowa and to the members of the Nebraska/Iowa Editorial Team for their fine work. The generosity of all these dedicated educators enables us to make this high quality document available to you. Best wishes to all of you in your efforts to improve learning outcomes for our future citizens. Our staff is ready to assist you in any way possible.

Sincerely,

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Deepest gratitude for your talents, perseverance, and patience, but most of all for choosing to work for the benefit of others.

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No publication communicates well to its reader without
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The countless hours and limitless patience of the support staff
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Guiding Principles

Introduction

THE EXPERIENCES and knowledge young children bring to school, combined with their natural curiosity and sense of wonder, are the foundation for learning in the primary years. The primary program is designed to help develop children's potentials. It respects and values differences in children, building upon individual differences rather than stressing conformity. It provides opportunities for continuous learning without the restrictions created by fixed groupings of children based on ability or by retention and promotion practices. It allows for the fact that for different children learning occurs in different areas, at different times, and in different ways.

The program honors the development of the whole child. It reflects an understanding that children learn through active involvement and play and that children represent their knowledge in a variety of ways.

The primary learning environment provides time and opportunities for children to experience and respond creatively to their world. The learning environment is social in nature, providing a secure and stimulating climate for all children. It provides time and opportunities for children to take appropriate risks and to explore and investigate their world. Children have experiences which encourage them to interact with others, to develop interpersonal skills, and to work and learn cooperatively and collaboratively.

"If children are excited, curious, resourceful, and confident about their ability to figure things out and eager to exchange opinions, with other adults and children, they are bound to go on learning, particularly when they are out of the classroom and throughout the rest of their lives."

Constance Kamii, Ed., Achievement Testing in the Early Grades: The Games Grown-ups Play, 1990.

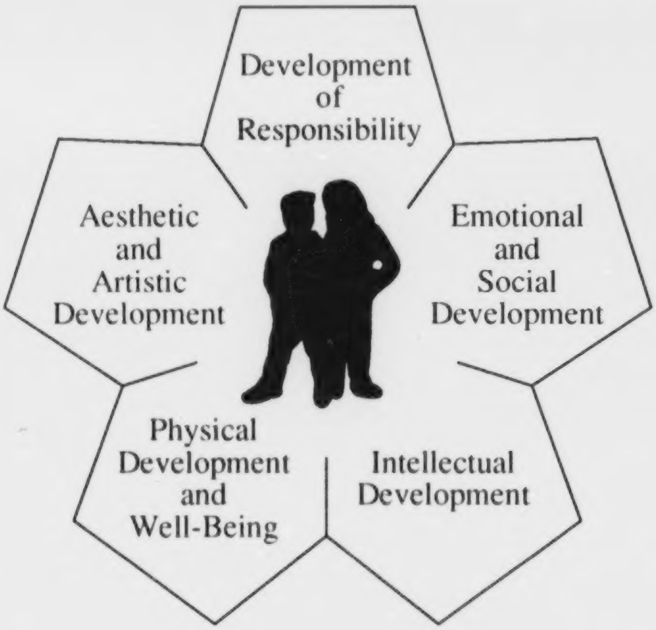
Evidence of what each child can do is collected frequently and used to make decisions about activities to meet learning needs. Assessment and evaluation are viewed as integral components of the teaching-learning process. Assessment and evaluation support the child's learning; they assist the teacher in making appropriate educational decisions. The assessment and evaluation of each child's growth in learning is based on the goals of the primary program, not on comparisons with other children. In this way, children are encouraged to improve their performance and realize their individual potential rather than to compete with others.

Every child enters the world ready to learn, wanting to learn, and, in fact, needing to learn. Children's needs for food and shelter are matched by a vital need to make sense of their surroundings. Imagine the world of the very young child. It is a world of complex sights, sounds, smells, tastes, and textures for which the child must find meaning. In a real sense, knowledge about this world is constructed by the child and with very little direct help from anyone.

The program values teachers and parents as partners in the child's education. Teachers and parents consult and collaborate to create a climate of respect, success, and joy. Parents are the most influential people in their children's lives. Children learn the language of the home, how language is used, and the attitudes and values their parents have about learning. No wonder some educators have said that children have done the most difficult learning of their lives before they ever come to school. And, they have done it largely by themselves on their own initiative. Clearly, learning is natural, and wanting to know and learn are basic human characteristics.

The goals of the primary program are interrelated and of equal importance. They provide the foundation upon which the program is built. Each goal is supported by foundation statements which are the building blocks educators use to plan experiences that honor and acknowledge the basic human need to learn.

Goals of the Primary Program


Development of Responsibility
Aesthetic and Artistic Development
Emotional and Social Development
Physical Development and Well-Being
Intellectual Development

Primary Program Goals

Aesthetic and Artistic Development

A variety of experiences will be provided to enable the child to:

- develop enthusiasm for the arts;
- imagine and visualize through the arts;
- respond through the arts;
- express and represent through the arts;
- interpret through the arts;
- create through the arts;
- appreciate the arts; and
- think, learn, and communicate through the arts.

Emotional and Social Development

A variety of experiences will be provided to enable the child to:

- develop a positive, realistic self-concept;
- develop independence;
- set appropriate goals;
- feel satisfaction with accomplishments and efforts;
- cope with change;
- share and cooperate;
- develop friendships;
- learn from others; and
- enjoy living and learning.

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Foundation Statements

Intellectual Development

A variety of experiences will be provided to enable the child to:

- sustain and extend natural curiosity;
- develop thinking through meaningful learning experiences;
- use language to facilitate thinking and learning;
- use language to communicate effectively;
- develop and integrate the attitudes, dispositions, skills, and knowledge of the fine arts, the humanities, the practical arts, and the sciences; and
- become an independent, lifelong learner.

Physical Development and Well Being

A variety of experiences will be provided to enable the child to:

- learn and practice safety procedures;
- take care of and respect one's body;
- develop an awareness of good nutrition;
- develop a wide variety of motor skills while maintaining physical fitness;
- develop an appreciation and enjoyment of human movement; and
- learn social skills in a physically active setting.

Development of Responsibility

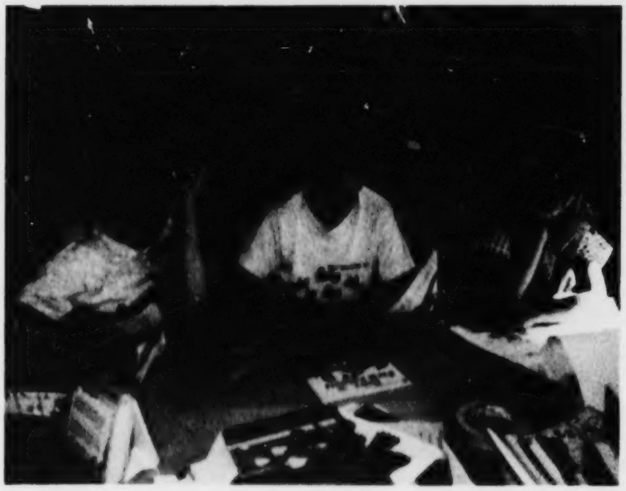
A variety of experiences will be provided to enable the child to:

- value and respect individual contributions;
- value, respect, and appreciate cultural identity and heritage;
- accept and demonstrate empathy;
- acquire cooperative and independent social skills;
- respect and care for the environment;
- adapt to a changing world; and
- value and respect individual differences in people.

Philosophy

The primary program nurtures the continuing growth of children's knowledge and understanding of themselves and their world. It provides a safe, nurturing, and stimulating environment where learning flourishes. The program recognizes that children are individuals and every child is unique. The program accommodates the broad range of children's needs, their learning rates and styles, and their knowledge, experiences, and interests to facilitate continuous learning. It achieves this through an integrated curriculum incorporating a variety of instructional models, strategies, and resources.

The program respects the development of the whole child. It reflects an understanding that children learn through active involvement and play and that children demonstrate and represent their knowledge in a variety of ways. It recognizes the social nature of learning and the essential role of language in mediating thought, communication, and learning.



The program views assessment and evaluation as integral components of the teaching-learning process. Assessment and evaluation support children's learning and assist the teacher in making appropriate educational decisions.

The program values teachers and parents as partners in children's learning. Teachers and parents consult and collaborate to create a climate of respect, success, and joy necessary for lifelong learning.

Considerations for Implementation

Those who implement the primary program consider the principles that support the primary program philosophy. Fundamental characteristics of an enabling environment appropriate for young children and key aspects of curriculum, assessment, and evaluation must be identified. The roles of educators and parents in creating an optimum learning environment for children are all important considerations.

The Child and the Learning Environment

Children are unique individuals. They develop and learn at different rates and in different ways.

The learning environment helps develop individual potential. It respects and values differences in children, building upon individual differences rather than stressing conformity. It provides opportunities for continuous learning while allowing for the fact that learning occurs in different areas, at different times, and in different ways. It accommodates children with diverse ability levels and backgrounds to participate equally. Children are assessed and evaluated in terms of their achievements, not by comparisons to group norms. It encourages children to improve their performance and to realize their potential rather than to compete with others.

"Active learning classrooms, based on principles of child development, produce long term gains in general intellectual growth, social and emotional skills, and life coping abilities."

Joanne Peck,
Ginny McCaig, and
Mary Ellen Sapp,
Kindergarten Policies: What is Best for Children? 1988.

Children are aesthetic and artistic beings. They learn through sensory experiences; they express and represent their thoughts and feelings through a variety of media and forms.

The learning environment provides the time and the opportunities for children to experience and respond to their world through their senses. It allows children to create and to express themselves in a variety of ways.

Children are emotional and social beings with unique personalities. They learn best when they feel secure and valued. When they are accepted and appreciated, they are free to take risks, to make mistakes, and to learn from their errors and successes. Children develop and refine their thinking as they interact and communicate with other children and adults.

The learning environment is social in nature, providing a psychologically safe, secure and stimulating climate for all children. It provides time and opportunities for children to take appropriate risks, make choices, and explore and investigate their world. It offers children experiences which encourage them to interact with others, to develop interpersonal skills, and to work and learn cooperatively and collaboratively.

"Like growing flowers, where certain specific conditions are provided to produce beautiful blossoms . . . adults provide the conditions that establish the growing ground for empowered children."

Selma Wasserman, Serious Players in the Primary Classroom, 1988.

Children are intellectual beings. They are curious and enthusiastic learners who want to know about the world around them. As children experience their world directly, they experiment, make discoveries, and form hypotheses. They use language to clarify and extend their thinking and to communicate with others. Intellectual development is a process of acquiring, structuring, and restructuring knowledge. This intellectual development encompasses the attitudes, skills, and knowledge described in the humanities, sciences, practical arts, and fine arts curricula.

The learning environment is experience rich, providing time and opportunities for first-hand experiences. It facilitates the development of thinking processes through engaging children in activities that stem from their natural curiosity and wonder. Children are invited to explore and represent their thinking in a variety of forms. The environment is rich with language and literacy experiences, providing time and opportunities for children to communicate with other children and adults, to be immersed in oral and written language, and to become literate in purposeful, meaningful ways.

Children are physical beings who, to varying degrees, are physically active and energetic. For children, learning involves whole-body activities, active participation, and play. They need experiences that extend their ability to lead safe, active, and healthy lives.

The learning environment provides time, space, and opportunities for movement, for manipulation of objects, and for acquiring attitudes, dispositions, skills, and knowledge for safe and healthful living.

Children are becoming socially responsible, caring beings. They have unique cultural experiences and are developing interest in learning about their immediate and expanded environments.

The learning environment fosters an accepting, tolerant, and flexible attitude toward others and a respect for the natural world. It provides time and opportunities for children to participate in a variety of multi-cultural, nonsexist, and environmental activities. It helps children move beyond the personal level toward an awareness and appreciation of social, ethical, and environmental issues leading to positive action.

Children construct knowledge. Learning is an ongoing experience where children continually act upon and organize their experiences as they try to make sense of their world. As they interact with information and experiences, they move through the cycle of human learning common to all (see below). This cycle involves movement from ***awareness*** (exposure to and notice of events, concepts, people, and objects), to ***exploration*** (figuring out or bringing personal meaning to events, concepts, people, and objects), to ***inquiry*** (developing understanding of events, concepts, people, and objects), to ***utilization*** (applying or transferring what has been learned about events, concepts, people, and objects).

The learning environment provides opportunities and support in each level of the learning cycle to foster individual growth and development. Opportunities to revisit experiences and information facilitate a child's movement through the learning cycle as each interaction strengthens current knowledge and challenges the child to move to the next level.

Model of Learning and Teaching

What Children Do . . .	What Teachers Do . . .
AWARENESS	
• Experience • Acquire an interest • Recognize broad parameters • Attend • Perceive	• Create the environment • Provide opportunities by introducing new objects, events, and people • Invite interest by posing problem or question • Respond to child's interest or shared experience
EXPLORATION	
• Observe • Explore materials • Collect information • Discover • Create • Figure out components • Construct own understanding • Apply own rules • Create personal meaning	• Facilitate • Support and enhance exploration • Provide opportunities for active exploration • Extend play • Describe child's activity • Ask open-ended questions, "What else could you do?" • Respect child's thinking and rule systems • Allow for constructive error
INQUIRY	
• Examine • Investigate • Propose explanations • Focus • Compare own thinking with that of others • Generalize • Relate to prior learning • Adjust to conventional rule systems	• Help children refine understanding • Guide children, focus attention • Ask more focused questions, "What else works like this?" "What happens if . . . ?" • Provide information when requested, "How do you spell . . . ?" • Help children make connections
UTILIZATION	
• Use the learning in many ways; learning becomes functional • Represent learning in various ways • Apply to new situations • Formulate new hypotheses and repeat cycle	• Create vehicles for application in real world • Help children apply to new situations • Provide meaningful situations to use learning

In: *Young Children, March, 1991, National Association for the Education of Young Children.*

Families and the Learning Environment

Parents and families are children's first and most important role models.

They do their best to provide a nurturing environment that supports children socially and emotionally. Families prepare children for school by building positive home conditions which support appropriate learning and behavior. Families follow the progress of children throughout each school year and during non-school hours. Families project their philosophy, attitudes, and ideas concerning education to their children. Parents and families have needs that change over time.

Parents and families are active partners in the education of their children.

Parent and families provide daily opportunities for learning at home and support learning at school. Families spend time together, conversing, sharing ideas, and reading aloud to one another. They share with and support one another through life experiences. Families engage in open, two-way communication with the school concerning all aspects of their children's educational program. Schools respect the knowledge of parents concerning their children.

Parents and families are active learners.

Parents and families model learning strategies by using information resources. They model and encourage enthusiasm for learning by sharing and seeking information with their children. The home environment supports the conditions necessary for children's learning.

Parents, families, and schools support each other.

Families attend school-sponsored activities such as plays, concerts, sports events, and assemblies when possible. Families help to shape and abide by school rules and regulations. Families support school organizations. Schools build upon the strengths of families.

Parents and families are offered an active role in the life of the classroom.

Family members have an opportunity to volunteer at school. They may be asked to assist on a regular basis in the classroom, lunch room, office, or media center. Family members may wish to assist with class projects, field trips, or other events. Families are considered as sources of information and support when planning projects and theme studies. The level of participation is determined by the family and is welcomed by the school.

Parents and families are advisors and decision-makers.

Parents and families are welcomed as active members of advisory groups which recommend policies and procedures for the school. They are asked to serve as advisors in curriculum decisions and in the selection of materials.

Families and schools are advocates for each other.

The family encourages positive support for the school within the community. The school encourages positive support for the family within the school and community. Families and schools communicate often and work together to do what is best for children.

The Teacher and the Learning Environment

The role of the teacher is to facilitate learning. The teacher guides learning experiences through strategies that encourage children to think creatively, problem-solve, make decisions, and expand their thinking skills.

The teacher:

- relates to all children with warmth, sensitivity, and caring to establish and sustain a climate in which learning is joyful;
- invites children to participate in planning and creating a rich, stimulating environment which encourages interaction, exploration, and investigation;
- provides encouragement, support, and challenge, as appropriate, to help children develop personal goals;
- models respect for others and the environment;
- collaborates with other professionals and the children to plan, create, and sustain a safe climate in which children may work harmoniously, creatively, and productively;

What is the Teacher?

What is the teacher?
A guide, not a guard.
What is learning?
A journey, not a destination.
What is discovery?
Questioning the answers,
not answering the questions.
What is the process?
Discovering ideas,
not covering content.
What is the goal?
Open minds,
not closed issues.
What is the test?
Being and becoming,
not remembering and
reviewing.
What is the school?
Whatever we choose
to make it.

Alan A. Glatthorn
in Primary Program
Document, British
Columbia Ministry of
Education, 1990.

- draws upon a variety of organizational patterns to make optimal use of space and to integrate a variety of materials and equipment that stimulate active learning;
- provides time, opportunity, and a range of different experiences to stimulate children to interact, reflect, communicate, and learn;
- structures opportunities for children to work individually and with other children; with their teacher and other adults; and in groups of different sizes and composition formed for different purposes;
- focuses on the ongoing learning of individual children and on developmentally appropriate assessment and evaluation;
- uses the information gained through assessment and evaluation to make thoughtful, informed, and tactful interventions as required;
- exchanges information about the child with the child and parents on an ongoing basis; and
- models and demonstrates enthusiasm and a disposition for learning, and helps children to enjoy learning as meaningful, relevant, and personally satisfying.

"The job of a teacher is to excite in the young a boundless sense of curiosity about life, so that the growing child shall come to apprehend it with an excitement tempered by awe and wonder."

John Garrett from Peter's Quotations: Ideas for Our Time, 1977.

For more on the role of the teacher, see the *Model of Learning and Teaching*, page 11.

The Administrative Team and the Learning Environment

The role of the administrative team is to lead the learning process. The team provides the necessary conditions for the implementation of the primary program. These include time, resources, and support for a collaborative environment where those involved study the issues, visit other programs, and practice new strategies.

The administrative team must lead a process that:

- articulates the vision and direction of the district with regard to teaching and learning practices;
- analyzes the potential of the primary program to meet an identified need;
- clarifies, supports, and insists on the administrative role as central to building the capacity to implement the primary program;
- ensures that support is provided in the form of quality materials, inservice training, technical assistance, and opportunities for teacher interaction and planning;
- allows for modification and adaptation of the primary program out of respect for individual needs;
- communicates with and maintains the support of parents, community, and the school board for the primary program; and
- sets up an assessment system to monitor and adjust when problems occur.

"The paramount task of the district administrator is not to get this or that innovation put into practice, but to build the capacity of the district and the schools to handle any and all innovations."

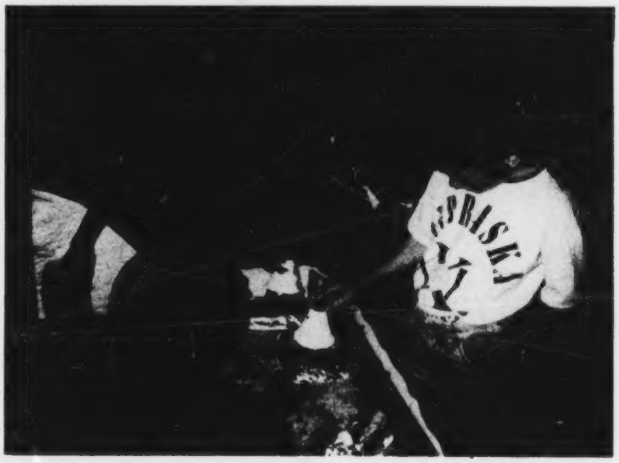
Michael Fullan, The New Meaning of Educational Change, 1991.

The Curriculum and the Learning Environment

The curriculum fosters the development of the child and promotes learning. It provides a variety of activities and materials that increase in difficulty and complexity as the child develops skills, knowledge, attitudes, and dispositions.

The curriculum:

- begins from where the child is and builds on the child's interests and natural sense of wonder;
- is worth learning, meaningful, and engaging; is appropriate to the child's particular stage of development;
- engages the child in meaningful activities and experiences which provide a context for the development of thinking processes;
- builds on, extends, and enhances success;
- provides a balance of activities and experiences that reflect the five goal areas;
- develops the attitudes, dispositions, skills, and knowledge of the fine arts, humanities, practical arts, and sciences;
- allows for the inclusion of locally developed programs;
- includes a broad-based educational focus in which social, ethical, and environmental issues are presented;
- is integrated wherever and whenever possible; and
- invites children to cooperate and collaborate with others.



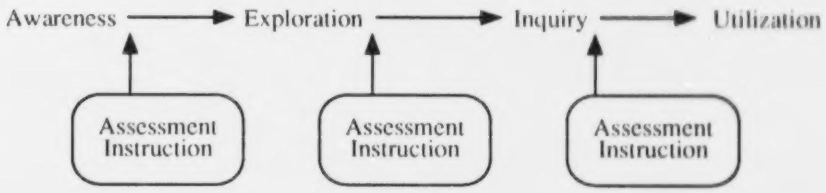
Assessment and Evaluation and the Learning Environment

Assessment and evaluation foster the development of the child and promote learning. Both components are an integral part of the ongoing teaching-learning process, but do not dominate or fragment learning.

Assessment and evaluation:

- involve each child in self reflection and evaluation;
- focus on each child individually;
- identify and build upon what each child can do;
- identify a child's interests and learning needs to facilitate continuous learning;
- are based on authentic evidence and appropriate practices and materials;
- include and arrange a variety of strategies and resources to suit the child and the purpose of the learning activity;
- are based on the curriculum and help direct the planning of learning experiences;
- acknowledge the whole child by focusing in a balanced way on all five of the primary program goal areas;
- enable learners;
- aid teachers in their ability to help each child grow and develop; and
- link home and school in a partnership.

Assessment as it relates to the "Model of Teaching and Learning"


Awareness
Exploration
Inquiry
Utilization
Assessment Instruction
Assessment Instruction
Assessment Instruction

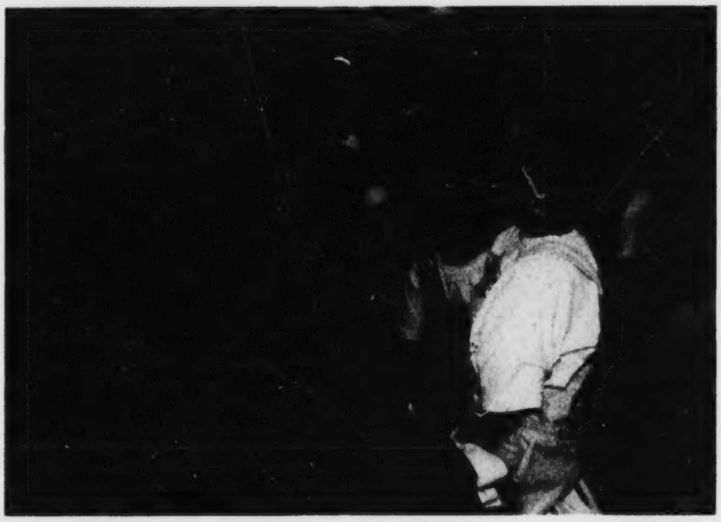
Position Statements

THE POSITION STATEMENTS that follow identify important issues and define and clarify the intent of the primary program with regard to these issues. Local school districts are encouraged to modify and rearrange the order of these statements as they incorporate the position statements into local programs.

- The Primary Program for All Children
    - Gender Equity
    - Children with Special Education Needs
    - Education Needs for Children with High Ability and Special Talents
- Integration of Learning Experiences
- Active Learning Through Play
- Family Involvement
- Working Together within the School
- Grouping for Learning
- Continuous Progress
- Retention, Tracking, and Extra Year Programs
- Alternative Assessment Process
- Evaluation
- Standardized Testing
- Reporting
- Library Media Center
- Computers and Related Technologies
- Career Education
- Partnerships with Families and Communities

The Primary Program for All Children

Since the primary program recognizes that children are individuals and that every child is unique, it is designed to be child centered. The program responds to the diversity of individual learners by helping children understand, respect, and appreciate individual differences.



The primary program recognizes that the most valuable resources in school are the children, families, and educators who make up its community. By creating environments in which unique abilities and contributions are recognized and celebrated, we respect the heritage, gender, culture, and talents of all members. Although our less important external differences may be obvious, the need for safety, respect, caring, and equal opportunities for learning and growing are universal.

In the primary program, teachers communicate acceptance, respect, and comfort for each child. Every child who comes through the door of any classroom deserves support and guidance from adults who believe in developing potentials.

The primary program, designed to be child-centered and to recognize and value the diversity of individual learners, can successfully accommodate the wide range of students. This range includes children of all ability levels. **The autonomous approach to learning in the primary program allows all children to stretch their potentials without the constraints of a more narrow curriculum.**

Not withstanding, some groups within the school system need special considerations. The specific needs of these groups have been identified and elaborated in the following three subheadings:

- Gender equity;
- Children with special education needs; and
- Children with high ability and special talents.

Gender Equity

In the context of the school, gender equity denotes equal access for boys and girls to opportunities without bias. It also denotes equal role expectations for boys and girls.

The primary program avoids creating or reinforcing gender differences through the curriculum, the selection of materials, or the organization of student groups.

The primary program takes care to provide consistent messages about gender equity. These messages are both explicit and implicit. Examples of explicit messages may be found in teacher language and learning materials. Examples of implicit messages may be found in teacher expectations for classroom behavior and play as well as teacher structuring of learning experiences (e.g., how students are grouped). By inviting and encouraging all children to participate in all activities, teachers provide equity in learning for both boys and girls.

Children with Special Education Needs

Children with special needs are typically more like than unlike other children. It is desirable that students with special needs are integrated in regular classrooms in their own neighborhood schools. An enabling environment that allows for the achievement of learning goals and an enhanced self-concept is of prime importance. Program objectives should be appropriate for each student and may include enrichment of language, culture, and socialization.

Whenever possible, students with special educational needs are integrated in regular classrooms in their own neighborhood schools. An enabling environment that allows for the achievement of learning goals and an enhanced self-concept is of prime importance.

Some students may require individualized programs including modifications, accommodations, and additional services within the framework of general education. These adaptations may focus on teaching strategies, pace of instruction, materials and equipment. Examples of accommodations include adaptations and extensions of learning activities, instructional strategies, environmental conditions, materials, and use of equipment.

Information about what children can do should always guide decisions as individual learning plans are developed. Programs that follow the guidelines of the primary program will already have many things in place to benefit children with special needs. Maximum benefit will occur as modifications and expansions are made through careful planning. "To guard against inappropriate practices, the assessment activities with children who have special needs must be more comprehensive, focused and precise than is usual with typically developing children." (Bredekamp & Rosegrant, eds., 1992, p. 108).

Special education personnel offer knowledge about disabilities, techniques for serving children with complex educational needs, and strategies for maximizing children's strengths to meet educational goals. Special educators will help to assess children's strengths and needs in order to plan an educational program that will facilitate children's competencies in classroom activities. Special education staff also assist with the active involvement of parents in the planning, decision-making, and implementation of the educational program. In order to meet the needs of children and families, a variety of professionals may be involved. These include the speech pathologist, occupational therapist, physical therapist, vision specialist, hearing specialist, psychologist, registered nurse, and school social worker.

"Young children with special needs are a tremendously diverse group .... Two certain facts about children with special needs are *they are all children* and *they all have unique needs*. First, because children with special needs are children, they have needs shared by all children. These include physical needs for shelter, rest and nourishment and psychological needs to be nurtured, safe and accepted. Second, children with [special needs] have needs that are NOT shared by all other children. They need environments that are specifically organized and adjusted . . . they need professionals who are competent in meeting the general needs of young children . . . who value working cooperatively with families to meet family needs and to help families promote their child's development" (Bredekamp & Rosegrant, eds., 1992, p. 95).

As those who work with children with special needs expand their knowledge, skills, and attitudes, they should consider learning more about:*

- assessment activities which guide decisions about children;
- family-centered services;
- services which focus on outcomes;
- using normalized but effective intervention strategies;
- monitoring and adjusting services as needed;
- providing services in inclusive settings;
- planning transitions to other settings;
- involving a full range of professionals as part of the team; and
- basing services on current research.

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* Each of these topics is discussed more thoroughly in Bredekamp, S. and Rosegrant, T. (1992). *Reaching Potentials: Appropriate Curriculum and Assessment for Young Children*. Washington, DC: National Association for the Education of Young Children.

Teachers in collaboration with and supported by appropriate personnel are responsible for the design and implementation of instructional programs, the reporting of student progress, and the supervision of teacher assistants.

Paraprofessionals play a key role for students with special needs. They may perform a variety of supportive functions from personal care to assisting with instructional programs and collecting data in assessment.

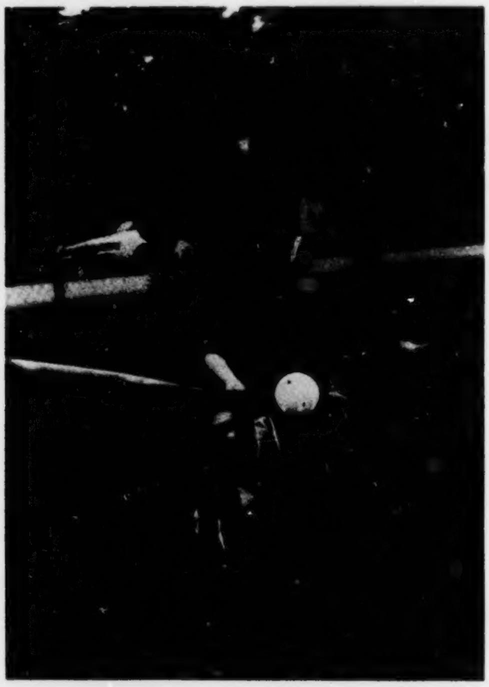
Emphasis on educating children with special needs in their neighborhood schools still allows for appropriate use of resource rooms or of self-contained or specialized settings.

Activities to help all children understand, respect, and appreciate individual differences are an integral part of the primary program.

"There are only two lasting bequests we can hope to give to our children. One of these is roots . . .

. . . the other wings."

Hodding Carter
from Peter's Quotations:
Ideas for Our Time, 1977.



Education Needs for Children with High Ability and Special Talents

Children with high ability and special talents thrive in a child-centered environment which supports continuous progress. The primary program removes the barriers of narrow learning tasks and objectives for all children thereby providing opportunities to choose extended, open-ended, focused pursuits of personal learning preferences and interests. The child who loves to read is able to extend time with a favorite book or writing project when reading is not limited to a "period" of the day. Another child may choose to expand a whole class science experience by drawing, writing about, and constructing a model of the science observations. At the sand table, still another child may measure and compare amounts of sand as well as move sand in a multi-sensory experience.

In a recent comparison (Javits Nebraska Project) of children's activities in child-centered and teacher-directed classrooms, both quantitative and qualitative differences in children's activities were described. In the area of literacy, findings in the child-centered classroom were: more discussion, sharing, writing, and collaborating; more individual choice work; more silent reading, personal reading time, and listening to others read; more sign and symbol study, elaboration of ideas, and decision-making. In contrast, in the teacher-directed classroom, findings included: more teacher directions, silent work, assignment work; more cut-and-color activities, large group teacher-led activity, out loud reading, and illustrating.

Children with high ability and special talents, particularly those who enter school already reading, writing, drawing, and understanding content, benefit from having choices regarding learning, thinking, content, and the use of time. Evidence supports that, given the option, children will use self-selected time and activities well. The primary program environment also provides opportunities for indicators of special talents and high ability to emerge. These indicators guide the design of individual learning goals throughout the child's educational experience. As children are engaged in learning experiences, the teacher observes behaviors and learning preferences. The ongoing assessment process in the child-centered learning environment allows children to explore and express their abilities and teachers to identify those abilities and interest.

Working with children of high ability and special talents can be gratifying for teachers. It is critical, however, to recognize that giftedness comes in many different forms and not all achievements will look the same. The varying needs of all young children must be considered and appropriate experiences facilitated to accommodate those individual differences (Garnett Chitwood, 1992).

Integration of Learning Experiences

"Knowledge, learning, understanding, are not linear. They are not little bits of facts lined up in rows or piled up one on top of another. A field of science, music or whatever, is a territory, and knowing it is not just a matter of knowing all of the items in the territory, but of knowing how they relate to, compare with, and fit into each other."

John Holt,
How Children Fail, 1964.

Curricular integration seeks to reflect, build upon, and enhance the integrated nature of learning. It can be achieved in a variety of ways.

The primary program emphasizes learning experiences which help children make connections between the curriculum and their own lives and experiences. For example, the curriculum begins from and capitalizes on what is of interest, relevance, and significance to children; it integrates the thinking and learning styles of the children with the curriculum experiences provided.

The program emphasizes learning experiences which help children make connections between existing and new attitudes, skills, and knowledge. For example, the curriculum starts from where children are; it allows children to learn in meaningful contexts; and it provides time and opportunity for children to make their own connections in their own ways.

The program emphasizes learning experiences which help children make connections across the curriculum. Children pursue learning in a holistic way, without the restrictions often imposed by subject boundaries. Learning is linked across traditional subject boundaries, and experiences are designed to be mutually reinforcing.

Active Learning Through Play

The primary program is designed to incorporate play as a way of learning for all primary children. Teachers are responsible for preparing the active learning environment and making plans to incorporate play as an essential learning experience which supports, sustains, facilitates, extends, enhances, and enriches the child's learning. While the teacher provides the time, space, and materials for play, it is the child who creates the idea and activity. In this way, play can be a deeply satisfying, creative endeavor as well as an adventure in self-expression, exploration, and discovery.

Primary age children learn through play. Play engages their whole being. Play mediates children's thought, language, and interaction with the world and with others. Play affords children valuable opportunities to experiment with language, to develop social relationships, to imagine, and to act out roles and relationships in a variety of settings.

Play allows learners to project into the realm of possibility while enabling them to develop, alter, and refine current understandings as they explore, imagine, imitate, construct, discuss, plan, manipulate, problem-solve, dramatize, create, and experiment. Through play, children demonstrate their knowledge, represent their experiences, and further explore their world.

"Play teaches the child, without his being aware of it, the habits most needed for intellectual growth, such as stick-to-itiveness, which is so important in all learning. Perseverance is easily acquired around enjoyable activities such as chosen play. But if it has not become a habit through what is enjoyable, it is not likely to become one through an endeavor like school work."

Bruno Bettelheim,
In Wasserman, S., Serious Players in the Primary Classroom, 1988.

Play is a natural and universal learning activity of children and adults. It is a lifelong need and pursuit vital to all human beings. Play is motivated by an inner drive to imagine, explore, experiment, discover, and learn. It is an expressive activity that results from a desire to make sense of the world.

Family Involvement

Family involvement in learning is the most valuable and common partnership in education. It is this partnership that results in the greatest benefits for children during their school career.

In supporting the school and its mission, families send a clear message that learning is a worthy, respected endeavor. When a partnership is formed, children become stronger learners, thereby developing high self-esteem.

The school in its partnership role displays respect for families by valuing their participation at whatever level in the activities of the school. Participation may include joining children in learning activities at home, playing learning games to enhance intellectual development, volunteering in the classroom, or joining in school organizations. The level at which the family chooses to participate is welcomed by the school.

The family-school partnership is one which provides benefits to all involved. Parents benefit by gaining knowledge of their child's school program and a better understanding of how their child learns within the school setting. Most importantly, families are recognized as the first and most significant role models for their children.

School personnel benefit from this partnership by gaining valuable information about the child. Parents know their child best, and providing genuine opportunities for parents to share this information is essential in planning a quality educational experience.

When people at school show respect for families, they become advocates for the school. Advocacy can take many forms, including in-class participation, at-home support, and community involvement, all of which strengthen the role of the school within the community.

Children are the most important beneficiaries of the family-school partnership. Children whose families take an active role in their education become better learners. They tend to attain higher levels of success and have more positive attitudes about school because they have a sense of belonging.

Working Together Within the School

Collaboration must be a vital part of the primary program. Teachers, support staff, and specialized staff need the opportunity to plan, coordinate, and share problems and successes regarding work with students. For teachers to remain vital, engaged, and committed to teaching, they must have time for interacting with others away from the daily demands and routines of their classrooms. Collaboration helps teachers to become less isolated and increases the energy to take risks in developing new ideas. As classroom teachers and teaching specialists plan together, they become accountable to one another.

The role of the classroom teacher is to implement the curriculum, adapting to individual differences and seeking help when necessary from specialists. Classroom teachers should consult with specialists about areas of study and topics of investigation so they may plan related experiences for children.

The role of the specialist teacher in art, music, physical education, foreign language or other areas is to support what is happening in the classroom environment by planning activities which extend classroom learning. Speech and special educators provide support through identifying and working with children in the classroom. The nature of the primary program makes it possible for most children with special needs to be served within the classroom. Pull-out programs for special education should be minimized in primary programs.

The role of the administrator is to provide support by scheduling the day so teachers can set aside planning time with specialists. Priority should be given to teachers who are actively seeking to integrate all aspects of the curriculum and who are open to collaboration. If a pull-out approach cannot be completely avoided, the schedule should reflect an effort to maintain large blocks of classroom time for integrated study and active learning. Specialists might be scheduled at the beginning or end of the daily routine so that periods of uninterrupted time remain in tact.

Collaboration between teacher and learner must also be a part of the primary program. Time must be allotted for individual conferencing, informal conversations, book talks, and other activities. The teacher must be mindful of the student's role in shaping conferences and conversations so they do not become question-and-answer sessions. Opportunities for child-to-child collaboration are also crucial if children are to learn cooperative techniques and how to work with others. Collaboration implies an emphasis on "we" instead of "me." Working together to get the job done creates caring and committed relationships that move people forward in a mutual effort to support learning.

Grouping for Learning

In grouping for learning, teachers consider the needs of both individuals and the group. Teachers organize children into various grouping patterns—for example, whole class, large groups, small groups, triads, pairs, and/or children working individually.

Sharing
Groups

Teachers choose a grouping strategy which is appropriate to the situation and facilitates optimum learning. The composition of groups affects not only how and what children learn but, also the way children feel about themselves and the way they relate to each other. Heterogeneous (mixed ability) grouping is the most effective way to maximize student success. Long-term, static ability grouping affects children negatively.

Although long-term ability grouping is not acceptable as a constant, grouping children for short periods of time to meet specific instructional needs is appropriate. This type of grouping provides for individualization in that it focuses instruction on the needs of each learner. Individualized instruction does not mean teaching the same lesson over and over again to each child in isolation; it means focusing on the learning needs of the individual, recognizing that more than one child may have similar needs at the same time.

The composition of groups affects not only how and what children learn, but also the way children feel about themselves and the way they relate to each other.

Flexible grouping allows the teacher to instruct children on the basis of interests and learning needs. When children are grouped according to interests, not ability, the opportunities to learn from each other are maximized. Children need opportunities to learn cooperatively and to experience the value of collaboration. Ultimately, social interaction leads to better understanding and a consolidation of learning.

Continuous Progress

Continuous progress offers children opportunities to build progressively on their developing knowledge and understanding of themselves and their world. It capitalizes on the interests and capabilities of students, while considering individual learning rates and styles. It provides success at all stages of learning so children see themselves as competent, worthwhile human beings who are self-aware, self-confident, and sensitive to others.

Teachers structure a supportive learning environment and approach curricula purposefully to make decisions about appropriate experiences and resources for individual learning. This learning environment encourages the removal of grade barriers. Ongoing assessment and evaluation of the child's learning would then replace such practices as promotion and retention. The teacher's evaluation of the child's level of development considers the learning demonstrated by the child, the goals of the program, and the widely held expectations for children's learning (see *Assessment and Evaluation Appendix A*), and the descriptors of children's learning (see the *Curriculum* section).

Retention, Tracking, and Extra Year Programs

"Children are not 'promoted' nor do they 'fail.' Because children progress through sequential curriculum at different paces, they are allowed to progress in all areas as they acquire competence. Retention is avoided because of its serious impact on children's self-esteem and the fact that the practice of retaining children in a grade for another year disproportionately affects male, minority, very young, and low-income children. The program is designed to serve the needs of the children; the children are not expected to change to fit the program."

National Association for the Education of Young Children

The primary program is not the place where learning begins. It is a continuation and extension of real learning which has been occurring for children every waking moment of their lives. In the primary program, the opportunities are so rich and varied that all children find experiences which challenge their current level of development. The program only serves to organize and focus what children are currently able to do. Those who work with young children must insist that the program help all children reach their potential. When the goal is continuous progress for individual learners, the need for practices such as retention, tracking, and extra year programs disappears.

Retention, tracking, and extra year or transition programs are often used out of genuine concern for children who are perceived as needing more time to be "ready." Parents and educators mistakenly believe that placing children in ability groups or in a classroom with younger peers will improve their chances for success. These concerns are grounded on a definition of readiness that is not consistent with neither the current knowledge about children's growth and development nor with the goals and philosophy of the primary program.

Research findings on retention indicate that its effects are cause for great concern. Teachers, parents, and peers are likely to view a retained child less positively. Retained children perform more poorly in future academic work and are much more likely to drop out of school altogether (Holmes, 1989; Kreitzer, Madaus, & Haney, 1989; Mann, 1986). Further, research on kindergarten retention notes that it does not improve achievement, is not different from retention in later grades in its consequences, and has harmful effects on socio-emotional outcomes and on the development of self-concept (Shepard & Smith, 1989).

Tracking, often used to "equalize" opportunities for diverse groups, in fact, achieves the opposite. Students in low tracks are likely to experience negative effects personally and socially. Children in fixed ability groups are typically not treated equally by the teacher and miss out on the benefits of mixed ability groups. Tracking also tends to separate students along socio-economic lines (Slavin, 1987). Strategies such as cooperative learning and flexible grouping minimize the need for tracking. In the primary program, teachers adopt a model of teaching and learning that helps them cope with diverse groups of students.

Extra year programs refer to any transitional program designed to give children who are "immature" with more time to grow and develop. Extra year programs such as readiness and "developmental" kindergarten and junior or pre-first grades are forms of retention and also have the effect of tracking children.

A synthesis of studies finds no benefit for children who were enrolled in extra year programs. The effects of transition and extra year programs are indistinguishable from the effects of retentions (Shepard, 1989).

The following guidelines should be used when making decisions about young children (adapted from *Unacceptable Trends in Kindergarten Entry and Placement,* National Association of Early Childhood Specialists in State Departments of Education, 1987):

- Teachers and administrators guard the integrity of effective, developmentally appropriate programs for young children. *They do not yield to pressure for acceleration of narrowly focused, skill-based curricula.*
- Multiple sources of information are used to make decisions about young children. *Standardized tests are not used to decide if a child can enter school or be promoted.*
- Any tests used with primary children are valid, reliable, and helpful in program planning and information sharing with parents. *They are not used to create barriers to continuous progress or to sort children into what are perceived to be homogeneous groups.*
- Children are enrolled in school based on their chronological age and their legal right to enter. *Families are not counseled or pressured to delay entrance of their children for a year by keeping them at home or enrolling them in preschool. Schools aggressively encourage parents to enroll age-eligible children.*
- Teachers and administrators increase the use of systematic observation and other alternative assessment strategies. *They do not defer measurement decisions solely to psychometricians and test publishers.*
- Retention is rejected as a viable option for young children. *It is not perpetuated on the basis of false assumptions as to its educational benefit.*
- Multi-age groupings are used as a means of providing challenging experiences for all children. *They are not a justification for keeping some children in the same setting for longer periods of time, which is another form of retention.*
- All children are welcomed as they are into heterogeneous classroom settings. *They are not segregated into extra year programs prior to or following a given level.*

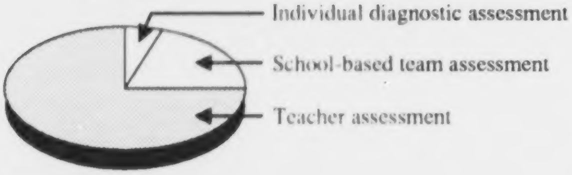
Alternative Assessment Process

Assessment is the systematic process of gathering evidence of what a child can do. Assessment techniques are authentic, continuous, and free from cultural, gender, and linguistic biases. In the school environment, assessment begins in the classroom. Assessment techniques occur in the context of the classroom environment; they mirror the actual learning experiences in the classroom; and they are carried on in an unobtrusive manner. Observing children, conferencing, and examining multiple samples of children's representations of their learning, provide the evidence upon which to plan learning experiences appropriate for each child.

Throughout the assessment process, the teacher shares information and interpretations and invites active participation from children and parents. The teacher views assessment as an integral part of instruction. The children see assessment as another learning experience.

Even after extensive ongoing classroom assessment and evaluation, the teacher may still have unanswered questions about some children. In such instances, the teacher and a school-based student assistance team collaborate to collect further information for a problem-solving meeting. For some children, this may indicate the need for further diagnostic assessment completed by a multidisciplinary team which includes the classroom teacher and qualified specialists. For children qualifying for special education services, the team then develops an individual plan for learning.

Assessment of Children



When assessment procedures are carried out by professionals other than classroom teachers, the teacher continues to have prime responsibility for both the child and for continuing classroom instruction and assessment. The chart above provides an approximation of the appropriate proportion of various forms of assessment.

Evaluation

Evaluation is the ongoing process of making judgments and decisions based on the interpretation of evidence gathered through assessment. The purposes of evaluation are to make informed instructional decisions and to provide a basis for reporting progress to the child, to parents, and to school personnel.

Evaluation is based on learning demonstrated by the child in relation to the goals of the primary program, curriculum expectations, and the descriptions of children's learning (see the *Curriculum* section). Descriptors, reflecting the range of growth throughout the primary years, help the teacher describe children's learning in developmental terms. Evaluation assists the teacher in adjusting instruction to enhance and extend learning, while supporting learners by providing information on their achievements. For students with special needs, the teacher's evaluations must be considered and routinely reviewed.

Self-evaluation and reflection assist children in becoming independent and autonomous learners. Teachers nurture the process of self-evaluation as they guide children to be reflective and as they help children recognize their accomplishments and identify their learning needs. With repeated opportunities to evaluate their work, children understand the significance of self-evaluation as a tool for lifelong learning.

Teachers nurture the process of self-evaluation as they guide children to be reflective and as they help children recognize their accomplishments and identify their learning needs. With repeated opportunities to evaluate their work, children understand the significance of self-evaluation as a tool for lifelong learning.

Standardized Testing

"The authors of (these chapters) are calling for a halt to achievement testing in grades K-2 for two reasons: These tests are not valid measures of children's learning or of teacher's accountability, and the pressure for higher test scores is resulting in classroom practices that are harmful to young children's development."

Constance Kamii, Ed., Achievement Testing in the Early Grades: The Games Grown-ups Play, 1990.

In the primary program, the descriptors of children's learning set out the widely held expectations (see the *Assessment and Evaluation* appendix) and provide the context in which a child's growth and development are interpreted. The assessment and evaluation procedures are related to the goals of the primary program; they are congruent with instructional practices; and provide useful information on which to base instructional decisions.

The use of standardized achievement and ability tests designed for and administered to groups is inappropriate for use with primary children.

This kind of testing brings with it problems of reliability, validity, and standardization. Standardized achievement and ability tests evaluate learner achievement in highly abstract ways. Such tests do not match the way children learn or the curriculum which serves as a basis of instruction.

However, when questions about a child cannot be answered in any other way, individual diagnostic assessment may prove useful. Such assessment is conducted by an appropriately trained professional, and the results are used to make recommendations about instruction and support services. This type of assessment is required for only a few children.

When assessment practices are carried out by professionals other than the classroom teacher, the teacher continues to have prime responsibility for the child and for ongoing classroom assessment.

Reporting

Reporting provides regular communication, both formal and informal, about a child's progress. This communication is made to the child, the child's parents, and appropriate school personnel, depending on need and purpose.

In the primary program, reporting involves the teacher providing information for parents and parents providing the teacher with observations and insights about their child. Both teacher and parents use the shared information to support the child's learning. The child needs to understand and contribute to the process by helping identify his or her efforts, accomplishments, and learning needs.

Communication between school and home encompasses a range and variety of reporting strategies, both formal and informal. These strategies include anecdotal reports, conversations, conferences, telephone calls, notes, and visits. One aspect of communicating a child's progress to parents is the written report of a child's profile. This type of reporting consisting of anecdotal comments describes the child's learning in the context of the goals of the primary program. The reports may also include specific recommendations and suggestions that invite parents to take an active role in their child's education.

Anecdotal reports describe what children can do. Comments and descriptions of observable behaviors demonstrate how and what children are learning and provide information which facilitates continuous learning. Checklists, while useful for gathering information, are inappropriate for reporting purposes. Comparison with other children, or the assigning of letter grade symbols and pseudo-letter grades, are also inappropriate.*

* **Inappropriate reporting procedures include:**

- A, B, C
- G, S, N
- S, N, U
- VG, G, S, U
- excellent, very good, satisfactory, unsatisfactory
- above average, below average
- I = improvement needed or improving, etc.
- √

The child needs to understand and contribute to the process by helping identify his or her efforts, accomplishments, and learning needs.

Library Media Center

"Since we can't know what knowledge will be most needed in the future, it is senseless to try to teach it in advance. Instead, we should try to turn out people who love learning so much and learn so well that they will be able to learn whatever needs to be learned."

John Holt,
How Children Fail, 1964.

One of the important roles of educators is to nurture the natural curiosity of young learners and to promote a lifelong love of learning.

It is a fundamental expectation of the primary program that children have ongoing opportunities to be immersed in rich literature, non-fiction, and multimedia materials.

Children must learn how and where to access information from diverse sources, including reference books, computer databases, and a range of audio-visual materials. Therefore, a well-organized collection of learning resources, both fiction and non-fiction, print and non-print, is essential. Although the library media center is the heart of the school, it is also important that children have a range of quality materials available on a long-term basis in their classrooms. The media collection is always evolving and provides depth and quality in meeting the educational needs of staff and children.

As information and technology rapidly expand, the collaborative support of teacher-librarians is needed in other ways. A teacher-librarian has knowledge of students, curriculum, teaching strategies, and library management and makes the library resource center into more than a storehouse. In fact, the library media center resembles a work shop or learning center which students use continually to meet their learning needs.

Teacher-librarians, because of their special expertise and their experience as classroom teachers, share with their colleagues a common understanding of students and how they learn, and of teachers and how they teach. The responsibilities of teacher-librarians for curriculum development, consultation, and the selection of learning resources are carried out in partnership with the classroom teacher. With the widespread move toward cooperative planning and teaching, teacher-librarians are increasingly involved in program planning, curriculum implementation, instruction, and the evaluation and selection of books and resources.

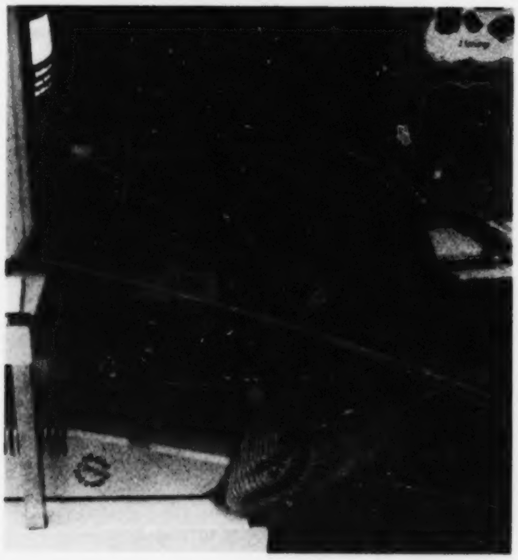
Computers and Related Technologies

The use of technology is becoming increasingly important in our society, and this should be reflected in our classrooms.

The use of computer programs designed for drawing and painting, world processing, and simulations promotes problem-solving skills and critical and creative thinking. Access to information banks and telecommunications provides students with experiences that extend far beyond the classroom. New multimedia learning resources incorporate video, computer software, and print resources to facilitate learning in ways that are not attainable through a single medium.

Opportunities to use appropriate computer and related technologies are available to students throughout their education, beginning in the primary years. Software that is pedagogically sound and educationally relevant can be incorporated with other resources to facilitate learning.

Evaluation of software is necessary to ensure that the child is actively engaged in learning and not merely focusing on decontextualized drill and isolated skills. Teachers must select quality software which guards against using the computer as an expensive workbook. Teachers plan technological experiences with as much care and attention as activities in any other area of the curriculum.



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Career Education

Career development is one of the prime goals of education shared by the school, the family, and the community.

In this changing world, education should prepare young people to be aware of and to make choices about how they plan to live their adult years. The primary program, in laying the foundation for a sound education, contributes to the student's ability to make informed decisions about career and life-style.

In addition, there are more explicit ways in which the primary program may contribute to career development. These range from developing a sense of curiosity to taking pride in one's work; from a sense of personal autonomy to an ability to interact and work with others as well as independently.

Career development also includes the acquisition of an open and inquiring attitude towards work. It includes the development of an understanding of the world in which we live and the place of leisure, sports and recreation, the arts, industry, trade, commerce, and public service in our lives. Providing situations for all children to investigate traditional and non-traditional roles helps them to realize the range of possibilities for career choices and life decisions.

Primary teachers facilitate career education in a number of ways. For example, teachers help children build upon, extend, and develop or modify the experiences they have gained about the world of work from everyday life outside the classroom. The teacher may achieve this through a variety of means including: modeling and providing children with role models; field trips and related experiences; reading and discussion; and, most significantly, providing opportunities to extend understandings through play.

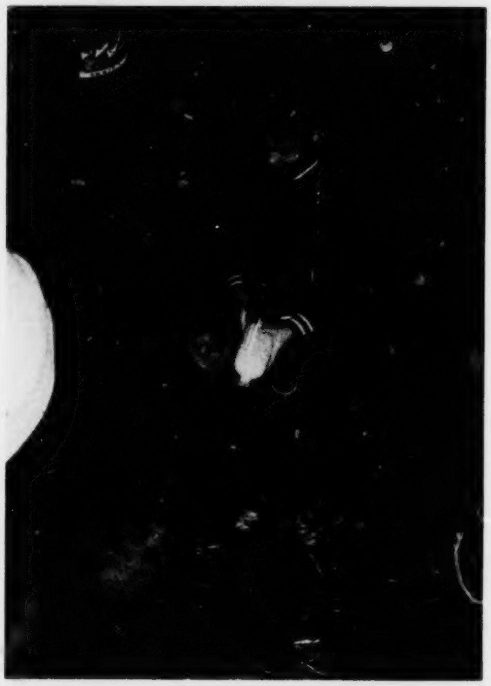
Providing situations for all children to investigate traditional roles helps them to realize the range of possibilities for career and life choices.

Partnerships with Families and Communities

"Partnerships in education" refers to relationships which connect schools and individuals or groups in the community such as theatre groups, health care services, child care services, athletic teams, local human service agencies, business, labor, and industry. Examples of partnerships include:

- parent participation in the school;
- linking a child with a mentor such as a local painter, scientist, or truck driver;
- creating relationships with special interest groups, local businesses, or industries; and
- industry sponsorship of specific school activities.

As children interact with the people, places and things in their immediate community and beyond, they extend their horizons and develop the attitudes, dispositions, skills, and knowledge they need to become effective citizens.



Partnerships in education build bridges from the school to the community and from the community to the school. Partnerships are a two-way, interactive process of active collaboration and communication. As children interact with the people, places, and things in their immediate community and beyond, they extend their horizons and develop the attitudes, dispositions, skills, and knowledge they need to become effective citizens. Partnerships can include bringing people and resources from the community into the school or taking children into the community.

Partnerships benefit both the school and the community. These include:

- extending the boundaries of learning;
- developing mutual understanding of the school and community needs; and
- involving educators and the community in common goals and schools and communities working together towards meeting future needs.

As we extend the number and type of these partnerships for children, we build important bridges from the school to the community and to the world. In this way, we improve the quality of life for children so they are able to make effective transitions to the future.

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Children's Development and Goals of the Primary Program

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Children's Development and Goals of the Primary Program

> *"If I could tell you what I mean, there would be no point in dancing."*
> *Isadora Duncan, Art of Dance.*

Aesthetic and Artistic Development

EXPERIENCING THE ARTS is an integral, natural, and essential part of the child's development. The arts provide, in addition to pleasure and satisfaction, a way for children to respond to and interpret their real and imagined world; a vehicle through which children may express curiosity, feelings, and understandings; and a context in which children may discover and appreciate aspects of their cultural heritage and that of others. Through dance, drama, music, and visual arts we share with one another our creativity and ourselves.

Participating in the fine arts is an essential part of the primary program. As young children explore and experience their world through the arts, they learn to respond thoughtfully and sensitively to their environment. They develop personal creativity and a sense of aesthetics. They enrich, deepen, and extend their thinking and language, their learning, and communicating.

In order to achieve these goals, the primary program provides children with experiences that help them:

- develop enthusiasm for the arts;
- imagine and visualize through the arts;
- respond through the arts;
- express and represent through the arts;
- interpret through the arts;
- create through the arts;
- appreciate the arts; and
- think, learn, and communicate through the arts.

Characteristics of the Learner:

- *unique,*
- *natural explorer, creator, inventor,*
- *enjoys rhythm and movement,*
- *uses all the senses,*
- *responsive,*
- *enthusiastic,*
- *vivid imagination,*
- *inquiring, and*
- *enjoys socio-dramatic play.*

Teaching Specialists and the Arts

The fine arts are an integral part of the early childhood curriculum. The responsibility for integration of the arts lies with the classroom teacher. Experiences in dance, art, music, and drama are a natural means for integrating learning from other content areas. The role of the specialist in music, art, or physical education is to support what is happening in the classroom by extending the learning. It is essential that the classroom teacher and specialists form a partnership and collaborate regularly to design experiences that are connected and meaningful for children.

"Art not only connects with other curriculum areas; it connects with life."

Lila Lasky and Rose Mukerji, Art: Basic for Young Children, National Association for the Education of Young Children, 1980.

Developing Enthusiasm for the Arts

The primary program provides children with opportunities to participate in a wide spectrum of the fine arts. Active participation in dance, drama, music, and visual art fosters children's interest in and enthusiasm for artistic endeavors. It helps children appreciate and understand the creative works of others.

Imagining and Visualizing Through the Arts

Images reflect the wonder of the human experience. Through the arts, children are encouraged to use and enrich their natural ability to create images and to engage in make-believe. In the primary classroom, art experiences elicit visual representation of personal images, creative dance evokes images through movement, drama involves response to imagined characters, and experiences in listening to music give children aural images of narrative or abstract ideas.

Responding Through the Arts

The arts provide a unique avenue for children to respond to the world through the sense and the imagination. As children respond to a variety of visual, aural, tactile, and kinesthetic stimuli, they develop an array of personal meanings in the art forms as well as ways of expressing acknowledgment, ideas, and feelings in unique ways.

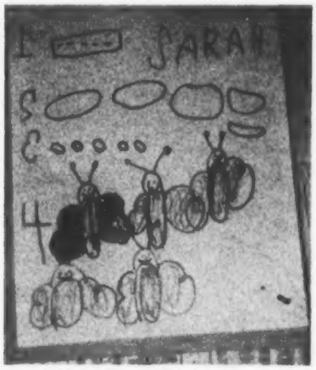
"Creativity cannot be imposed but must come from the child."

Victor Lowenfeld and Lambert W. Brittain, Creative and Mental Growth, 1975.

Expressing and Representing Through the Arts

As children perceive the world around them and respond to the myriad of visual, auditory, and kinesthetic stimuli, they express their reactions and responses. In doing so, they develop a variety of ways of representing what they know. With the teacher's encouragement and guidance, children experience a multitude of different art forms, thus opening up many avenues of expression.

The arts develop the senses, enrich the emotional self, and allow for a richer experiencing of the world. They encourage critical and creative thinking and personalize communication of thoughts and ideas to others. For young children who may not be able to fully verbalize their ideas, expression through the arts is especially important.



"He is not satisfied with speaking. He must 'play out' what he thinks and symbolize his ideas by means of gesture or objects, and represent things by imitation, drawing and construction."

Jean Piaget, The Psychology of Intelligence.

Interpreting through the Arts

"Through the process of creating beautiful things, children begin to build a foundation for aesthetic appreciation which enriches life."

Lila Lasky and Rose Mukerji, Art: Basic for Young Children, 1980.

Children relate the experiences of others to themselves as they make sense of the world around them. Interpreting, or creating images for others, is a way to communicate meaning. Whether children are dancing, painting, modeling, singing, moving to music, or acting, they are communicating their personal response to a stimulus or idea, and in so doing are learning more about their own feelings and emotions. Through reflection and discussion of their arts experiences, they express their own feelings and begin to interpret the feelings of others. Valuing and accepting children's responses encourages continued learning in the arts.

Creating through the Arts

Creativity is the extension of thought in a new or different way. It is the assimilation and selection of ideas and their reinterpretation or restatement in a personal and individual manner. Encouraging creativity helps children explore their thinking and represent it in many different ways. It helps children express themselves, consciously and sub-consciously. It helps children grow and develop toward their full potential.

"Creativity is the ability to see new relationships between previously unrelated objects or ideas, to push boundaries beyond present knowledge, and to organize ideas aesthetically. Originality in action or thought is creativity . . . . From a very practical point of view, it is extremely important that a person's creativity be fostered to its fullest extent."

Lambert W. Brittain, Creativity, Art and the Young Child, 1979.

To foster the creativity of children, the teacher provides an environment that is stimulating, safe and nurturing. Within this framework, children have the chance to try things for themselves, to use their imagination, and to judge their own degree of success. For both the child and teacher, the prime goal of the activity is not the final product, but the process, for learning is continuous and the final product is only one part of the process.

Appreciating the Arts

Appreciation of the arts begins with the opportunity to experience a rich variety of art forms. Through response, reflection and discussion, children extend their appreciation of the relationships among art forms and they learn about the relationship of the arts to society and to the environment.

Appreciating the Arts

Appreciation of the arts begins with the opportunity to experience a rich variety of art forms. Through response, reflection and discussion, children extend their appreciation of the relationships among art forms and they learn about the relationship of the arts to society and to the environment. Through this process, children begin to develop an appreciation of artistic endeavor, and to form personal concepts and values of what is aesthetically pleasing.

"We learn through our senses. The ability to see, feel, hear, smell and taste provides the contact between us and the environment . . . . The greater the opportunity to develop an increased sensitivity and the greater the awareness of all the senses, the greater will be the opportunity for learning."

Victor Lowenfeld and Lambert W. Brittain, Creative and Mental Growth, 1975.

Thinking, Learning, and Communicating Through the Arts

Learning through the arts gives children the tools to make individual aesthetic judgments, to select appropriate personal representations, and to share their artistic vision with others, regardless of the barriers of language and culture.

As children explore a rich classroom environment of multi-sensory experiences provided through the arts, they acquire a variety of new and enhanced ways of thinking, learning, and communicating.

These may range from making aesthetic judgments, to clarifying and expressing ideas and feelings based on real, vicarious, and imagined experiences.

Since the arts are a means of thinking, learning, and communicating, they complement and foster work in all areas of the primary program. As they all involve communication, the arts and other curriculum areas can be frequently integrated.

Emotional and Social Development

> *"I learn only what I believe I can learn. I learn only in terms of what I already know. I learn best when I feel good about myself."*
> *Bayne Logan*

EMOTIONAL, social, and total well-being are closely interrelated and are essential in our growth and development. Emotional and social well-being determine the way we feel, think, and act. They are a precondition for optimal learning. It is important for children to be nurtured and to develop emotionally and socially in healthy ways.

Characteristics of the Learner:

- *unique,*
- *talkative,*
- *friendly,*
- *social,*
- *sensitive,*
- *likes to please,*
- *learning to cooperate and collaborate,*
- *egocentric, moving toward sociocentric,*
- *dependent on adults,*
- *needs reassurance,*
- *resolves inner conflicts, through play and day dreaming,*
- *finds pleasure in regularity and personal routines,*
- *trusts adults.*

Children come to school exhibiting a wide variability in development and a broad range of behavior. Some children come to school with special needs and may have specific physical, intellectual, or behavioral learning needs. These children are part of the school culture and, like all children, need acceptance, respect, empathy, and understanding.

The primary program seeks to develop a positive self-concept in every child. It offers the child opportunities to gain confidence and competence in living with other people and functioning independently and cooperatively. It provides the child with experiences designed to:

"Unless one loves others one cannot love self, and if one does not love self one cannot love others."

Eric Frome, The Art of Loving, 1956.

- develop a positive, realistic self-concept;
- develop independence;
- set appropriate goals and feel satisfaction in accomplishment and effort;
- cope with change;
- share and cooperate;
- develop friendships;
- learn from others; and
- enjoy living and learning.

The teacher is responsible for the climate in the classroom and meeting the individual needs of all students. The role of elementary guidance counselors and social workers is to observe in the classroom and support children, families, and teachers by providing feedback, intervention, and instruction. It is essential the classroom teacher, parents, and counselors collaborate regularly to meet program goals.

"The criterion of social competence does not require that all children be social butterflies. It is not a source of concern if a child chooses to work or play alone, as long as he or she is capable of interacting productively and successfully with another when social interaction is desired, appropriate, or necessary."

Lilian G. Katz and Sylvia C. Chard, Engaging Children's Minds: The Project Approach, 1990.

Developing a Positive, Realistic Self-Concept

The emotional well-being of children is paramount in ensuring that children develop to their full potential. The child who has a positive, realistic self-concept is more likely to feel secure and be capable of making thoughtful and appropriate choices and decisions. The child who is confident is ready for new experiences. Successful learning, in turn, enhances self-esteem.

In the primary classroom, children are encouraged to be open-minded, inquiring, and self-initiating. They are supported as they take risks, solve problems, make choices and decisions, and deal with the decisions of others. They are helped to learn from their mistakes and successes. When children grow and develop in an environment that is positive and supportive, they are more enthusiastic, more willing to take risks, and better able to set and actualize their goals.

Developing Independence

The child who is independent is able to make self-governing choices and decisions. In the primary classroom, the child who is given opportunities to make choices and decisions and who is learning to work in a self-directed way is the child who is learning to become independent. At first, children may require a good deal of support and guidance, as they are more egocentric in their learning and may not have established notions of working independently. But, as children grow and learn in a supportive classroom setting, their development is reflected in an increased sense of self-direction and growth in autonomy.

Setting Appropriate Goals and Feeling Satisfaction in Accomplishments and Efforts

As children are encouraged to explore and experiment, to think divergently, and express differing ideas, they begin to develop a belief in their own abilities as learners. The teacher enhances this learning and helps children understand and value themselves as learners. The teacher supports the child by honoring every child's efforts and accomplishments and by helping children take on increasing responsibility for setting their own goals, directing their own learning, and monitoring and assessing their own progress. Feeling secure and valued in the classroom helps children learn, and it serves to increase their knowledge of themselves as unique and competent people.

Coping with Change

Change occurs constantly throughout life. It can be gradual or sudden, pleasant, or harsh, and it may become apparent only in retrospect. For most children, change is a healthy part of life: it stimulates the mind and body. For others, it takes a caring, thoughtful, and sensitive teacher to help the child learn to cope with change and grow emotionally, socially, and intellectually through change.

The teacher is sensitive to the strong feelings and emotions and the sometimes inappropriate behaviors evoked by sudden, unexpected, or unwelcome change in a child's life. The teacher accepts these as a prerequisite to the child's development of appropriate ways of coping and, when possible, guides the child in developing new strategies for coping. It is helpful for children to reflect upon change as they are experiencing it. Children who trust their ability to cope effectively with change have a sense of being more able to manage during change and are, therefore, more likely to react in a positive manner.

Sharing and Cooperating

To live, work, and learn together we need to learn to share and cooperate. In the primary classroom, children learn how to function as part of a social network. The classroom is an active workshop where children have many opportunities to cooperate and share materials, ideas, space, and attention. Through activities such as taking turns, sharing, contributing to discussion, following group directions and ideas, and being sensitive to the needs and feelings of others, the children become aware of and learn to practice appropriate behavior in a group. The teacher takes into account that children's social behavior is influenced by their developmental maturity, language competence, and problem-solving abilities. The teacher sets reasonable expectations for levels of cooperation and sharing for each child and identifies and allows for specific learning needs. Through observation and interaction with children, the teacher models, reinforces, and teaches the appropriate social attitudes, skills, and behaviors.

"Nothing we learn is more important than the skills required to work cooperatively with other people. Most human interaction is cooperative. Without some skill in cooperating effectively, it is difficult (if not impossible) to maintain a marriage, hold a job, or be part of a community, society, and world."

D.W. Johnson, R.T. Johnson, and E.J. Holubec, Cooperating in the Classroom, 1988.

Developing Friendships

A capacity for loving others and the ability to seek and give companionship is the basis of all human relationships. The capacity to form friendships begins with the child's own sense of security and well-being. This allows the child to move outward toward others. As primary children learn to make friends, they also learn appropriate ways of being with others in group settings. Learning how to make and maintain friendships is part of the social learning fostered in the primary program.

Learning from Others

The primary program creates continuous opportunities for children to work together. Working with a partner and in large and small groups facilitates children learning with and from others. As children grow and develop in the primary classroom, they learn to view the world not just through their own eyes but through a variety of shared viewpoints. Learning to cooperate and cooperating to learn promote individual learning, build self-esteem, enhance interpersonal relationships, and build the concept of community.

"We want to help children examine their feelings and attitudes and challenge them to accept new information and a variety of people into their lives."

Stacey York,
Roots and Wings,
Affirming Culture in
Early Childhood
Programs, 1991.

Enjoying Living and Learning

If children see themselves as valued members of their classroom community, and if they believe in themselves as learners, they become able to embrace all that life has to offer and to see the potential of each new experience.

In the primary classroom, acceptance, respect, warmth, caring, and a touch of humor create a climate in which children can embrace new learning with enjoyment and appreciation. When children view themselves as valued and successful, they are developing their potential as lifelong learners

Intellectual Development

INTELLECTUAL DEVELOPMENT may be defined as the process of deriving meaning from experience through acquiring, structuring, and restructuring knowledge. It is an integral part of every aspect of our lives. As we assimilate and use knowledge in independent, thoughtful, and purposeful ways, we become able to shape our lives and the future of our world.

The experiences and knowledge which young children bring to school, combined with their natural curiosity and sense of wonder, are the foundation for learning in the primary years. The primary program seeks to build on, extend, and deepen this foundation as the teacher works with children to inquire about, reflect upon, and represent their knowledge.

The teacher provides experiences to help the child:

- sustain and extend natural curiosity;
- develop thinking through meaningful learning experiences;
- use language to facilitate thinking and learning;
- use language to communicate effectively;
- develop and integrate the attitudes, skills and knowledge of the fine arts, humanities, practical arts, and sciences; (see *Enabling Learning Through Curriculum*); and
- become an independent, lifelong learner.

Sustaining and Extending Natural Curiosity

Children come to school already active thinkers, possessed of natural curiosity and an eagerness to learn. In planning developmentally appropriate and meaningful learning experiences for children, the teacher keeps in mind:

- factors affecting intellectual development;
- engagement in first-hand experiences;
- stages of children's thinking;
- characteristics of children's thinking;
- active learning through play; and
- social interaction.

Overview of Intellectual Development

Sustaining and Extending Natural Curiosity

- Factors affecting intellectual development
- Stages of children's thinking
- Characteristics of children's thinking
- Engagement in first-hand experiences
- Active learning through play
- Social interaction

Developing Thinking Through Meaningful Learning Experiences

- A framework for thinking
  - Thinking with information and experience
  - Ways of thinking
  - Thinking about meaningful problems
  - The application of thinking
  - Metacognition

- Fostering the development of thinking
  - Inquiry
  - Representation
  - Reflection

Using Language to Facilitate Thinking and Learning

- Language and thought
- Representation through language

Using Language for Communication

- Factors affecting language development
- Developing communication skills

Developing and Integrating the Attitudes, Skills, and Knowledge of the Fine Arts, Humanities, Practical Arts, and Sciences

Becoming an Independent, Lifelong Learner

"Each new level and each new logic opens up the child to new forms of information and new possibilities in utilizing, combining and applying that information."

*Patricia K. Arlin,
A Perspective on the Role of Knowledge in the Curriculum, 1989.*

As children are actively involved in their learning, as they pursue topics of personal interest and relevance, asking their own questions, solving problems and reflecting on their own thinking, so they experience the joy of learning and come to believe in themselves as learners.

Factors Affecting Intellectual Development

No single factor can account for intellectual development. It is a combination of the factors and the interaction among them that influences this development. When planning experiences that enhance intellectual development, the teacher takes all of these factors into consideration.

Factor	Characteristics
Maturation	Physical maturing, especially of the central nervous system;
Experiences	Handling, moving, thinking about concrete objects and events;
Social interaction	Playing, communicating, working with other children and adults;
Environment	Home, community, school;
Equilibration	The process of bringing maturation, experience, and social interaction together so as to build and rebuild mental structures;
Individuality	Learning style, dispositions, prior knowledge, interests, self-concept.

Stages of Children's Thinking

Children respond characteristically to different situations and events, depending on their stage of development. When planning appropriate learning experiences for children, teachers need to consider the following levels of children's thinking.

Characteristics of the Learner:

- *curious, seeking, social human being,*
- *natural explorer and inventor,*
- *thinks differently from adults,*
- *learns best through play,*
- *learns through social interaction,*
- *is developing thinking skills,*
- *represents knowledge in different ways,*
- *clarifies and extends thinking through language,*
- *uses language to communicate.*

The Piaget Primer: Thinking, Learning, Teaching

	Stage	Onset of Stage	Characteristics
Preparatory Prelogical Stages	Sensorimotor	* Birth	Coordination of physical actions
	Preoperational	* 2 years	Ability to represent action through thought and language
Logical Thinking Begins	Concrete Operational	* 7 years	Logical thinking tied to real experiences
Advanced Logical Thinking Stages	Formal Operational	*11 years	Logical abstract thinking

* *Approximate age of onset.*

E. Labinowicz, The Piaget Primer: Thinking, Learning, Teaching

NOTE: There are many models and theories to guide us in understanding the development of thinking. As a pioneer in the field of child development, Piaget has provided a model which serves as a springboard to other models. The Piagetian model is included in the table as a basic reference to consider when trying to understand the development of a child's thinking.

While most children pass through these developmental stages in the same order, the rate does vary from child to child. Some children may reach later stages at an earlier age, while some function at earlier stages for longer periods of time. The transition from one stage to another is neither abrupt nor final, and learners often respond in ways characteristic of more than one stage at a given time. Some children may never reach the level of formal operational thought or may reach this level of thinking in only one area of experience.

The thinking process starts with a structure or a way of thinking characteristic of one's level. Some external disturbance or intrusion (experience) creates a conflict or disequilibrium in this way of thinking. When this happens, the child will often rely on established thinking strategies and behavior from an earlier stage of development. In time, the child solves the conflict through further intellectual activity, moving towards a new way of thinking and structuring things, a way that provides understanding, satisfaction and equilibrium.

"In this process, each person is continuously checking new information against old rules, revising the rules when discrepancies appear, and reaching new understandings, or constructions of reality. In psychological terms, the old rules are the existing cognitive structures. When the old rules and the new information collide, the checking process generates cognitive disequilibrium. The revision is the accommodation that occurs when new rules or new internal cognitive structures are required to replace the old ones, which no longer explain reality. The new understandings are stops along the path of learning that occur when equilibrium is temporarily restored. This process occurs in both the teachers and the students, in both academic and social contexts" (Brooks, 1990.)

"Most children are motivated to learn by an intense desire to make sense out of their world and achieve the competencies desired by the culture."

Sue Bredekamp, Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth Through Age 8, 1987.

Characteristics of Children's Thinking

Children think differently from adults. "Young children have a logic which does mimic adult logic and which does not 'follow the expected rules' of logical" (P.K. Arlin, 1989). Young children must construct their own knowledge. The teacher, therefore, chooses, plans and structures experiences with due consideration to children's ways of thinking.

Sensorimotor Thinking

Characteristics of thinking at the sensorimotor stage are that the child:

- experiments to discover properties of objects and events;
- modifies familiar action patterns to fit new situations;
- begins to think before acting;
- is developing object permanence and a sense of space.

Preoperational Thinking

Characteristics of thinking at the preoperational stage are that the child:

- is beginning to think before acting;
- is egocentric:
- perceives parts or wholes but not parts in relation to wholes;
- continues to rely on appearance rather than logic;
- judges quantity on the basis of space taken by objects and length on the basis of how far one end protrudes;
- is constructing concepts by acting on the environment.

Concrete Operational Thinking

Characteristics of thinking at the concrete operational stage are that the child:

- still needs real objects to assist with reasoning;
- can reflect about events in the immediate past;
- understands cause and effect;
- can focus on detail and still keep the whole in mind;
- develops conservation of number, length, and volume;
- is able to reverse thought, understand actions, undo previous actions, predict changes, and anticipate outcomes;
- shows increased ability to express and receive ideas in symbolic forms, e.g., words, numerals;
- can focus on more than his or her own point of view;
- is gaining further understanding of the sequencing of events.

Formal Operational Thinking

Characteristics of thinking at the formal operational stage are that the child:

- is able to think beyond concrete reality;
- draws conclusions not only through direct observation but also through hypothetical statements;

- sees own point of view as one of many possible views;
- proposes hypothetical experiments and tests these mentally or physically;
- understands verbal statements and propositions;
- is able to think about his or her thinking (metacognition);
- considers abstract concepts (e.g., justice).

Engagement in First-Hand Experiences

Children learn best when they focus on and solve problems rising from or closely connected with their own lives. The teacher provides for the child first-hand experiences that include both "hands on" and "minds on" activities. Children's manipulation of objects is critical to their development of logical thinking during the years prior to entry into the formal operational stage. The more meaningful and varied the child's active encounters with the real world are in the early years, the stronger the foundations for logical thinking and the greater the receptivity to instruction.

The teacher presents content so children can assimilate it in accordance with their stage of development. For example, too much too soon creates problems of understanding. A child's inability to follow spoken or written directions is not always due to inattention or poor memory: children see and hear what they understand.

The teacher provides experiences that encourage children to develop intellectually as they engage in a variety of first-hand experiences. Children need to have opportunities for active involvement, close observation, thinking, talking with others and, once again, reflecting upon these experiences.

The chart on the following page provides a framework to use when planning learning experiences which foster intellectual development.

"The intellectual opportunities the teacher offers the students are carefully constructed invitations that maximize the possibility that new conceptual learning will occur."

Jacqueline Grennon Brooks, Teachers and Students: Constructivists Forging New Connections, 1990.

DO	OBSERVE	THINK	TALK	COMMUNICATE
- experience - touch - explore - investigate - experiment - test - discover - follow directions - seek - plan - focus - attend - select - decide - play - invent	- seek - identify - define - label - describe - count - note similarities and differences - note central meaning - note relationships - remember - explain - generalize - analyze - understand	- reflect - judge equivalence - compare - estimate - develop concepts of space, time - classify - seriate - pattern - associate - solve problems - infer - know - make decisions - think critically and creatively	- state needs - state wants - justify - monitor - direct - report - predict - express thoughts, ideas, plans, knowledge, understanding - clarify	- collaborate - wonder - question - gain information - interpret central meaning - criticize - evaluate - clarify - anticipate - predict - represent - dramatize - write - share - cooperate

Active Learning Through Play

Play is the fundamental, natural, universal activity of children. Play is intrinsically motivated for personal satisfaction and is a way of learning. It is the expressive activity resulting from the child's desire to make sense of the world.

Children learn through the process of play because of an inner drive to explore, experiment, and discover. The integration of the child's intellect, emotions, and inner drive promotes the development of the whole child. This integration may be accomplished through the provision for high quality play experiences in the primary years. As children play with objects and materials, with people, and with ideas and thoughts, the information gained through this experience is explored, tested, reflected upon and represented in a variety of ways.

"Play is by no means a simple thing; it is, in fact, a very complex thing. It is the only activity in which the whole educational process is fully consummated: when experience induces learning and learning produces wisdom and character."

N.V. Scafe,
Play in Education, 1956.

Stages of Play

Understanding the stages of play guides teachers in their program planning.

- *Unoccupied Behavior:* To an observer, the child appears not to be playing at all but is occupied with watching anything that happens to be of momentary interest.
- *Solitary Play:* The child plays alone and independently. Interest is centered on his or her own activity without any reference to what others are doing.
- *Onlooker Behavior:* The child watches other play, talks to them, asks questions, or makes suggestions, but does not enter into the play.
- *Parallel Play:* The child plays with other children and uses similar materials to them, but not necessarily in the same way.
- *Associative Play:* The child plays with other children and shares materials in similar activities. The activity is not organized. Each child acts as he or she wishes.
- *Co-operative or Organized Supplementary Play:* The child plays in a group organized for the purpose of making something, attaining a goal, dramatizing a situation, or playing a formal game. There is a marked sense of either belonging or not belonging to the group. Each child plays a role in relationship to other members of the group.

> *"There is evidence that by getting children to play with materials that they must later use in a problem-solving task, one gets superior performance from them in comparison with those children who spend time familiarizing themselves with the materials in various other ways . . . . The players generate more hypotheses and they reject wrong ones more quickly. They seem to become frustrated and fixated less."*
>
> *Jerome Bruner,*
> *On Teaching Thinking: An Afterthought, 1985.*

All six types of play may occur simultaneously. It is important that the teacher recognize that the types of play listed are not sequential stages and that children will select the type of play that meets their needs. For example, one child may need to be the observer until he or she feels confident enough to participate.

Another child, who usually takes an active part in group activities, may become fascinated by a particular experience and feel the need to explore it independently. Just as adults vary their behavior according to needs and circumstances, so do children as they become involved in a variety of situations and experiences.

The Development of Play

As children develop intellectually, the types of play in which they engage reflect this development. Play may be categorized as practice or functional, constructive, symbolic, or as games with rules (Bergen, 1988).

Practice of Functional Play

Play of this type is characterized by (early to later primary):

- increased motor skill;
- the desire to master physical challenges;
- repetition to acquire and refine physical skills;
- repetition of gross and fine motor activities (ride bikes, bounce balls) often with numerous variations, over and over;
- practice play activities serving as rehearsals of specific skills to be used in games or sports;
- rough and tumble play;
- experimenting with new materials and combining known materials in new ways to solve problems.

Constructive Play

Play of this type is characterized by (early to later primary):

- use of materials to make a particular product representing objects, ideas, or processes (paintings, drawings, three-dimensional creations);
- combining of constructive and symbolic play (creating a poem, dramatizing a production);
- combining a constructive and socio-dramatic play (creating environments to play out games, e.g., forts, boats, tents);
- making collections, organizing, examining, discussing, trading and displaying collections (stamps, models, shells, rocks).

Symbolic Play

Play of this type is characterized by (early to later primary):

- playing out what can be imagined;
- the ability to give objects properties that suit the needs of play (a block becomes a car, telephone, hair dryer);
- the assignment of roles ("You be the sister.") becoming more elaborate and sophisticated;
- fantasy play becoming more internalized (drawing, daydreaming);
- becoming more "miniaturized" (Barbie dolls, action figures, Playmobile people);
- role experimentation based on experiences that are not concrete or direct (futuristic stories);
- playing with language through jokes, parodies, riddles, and nonsense verse.

Games With Rules

Play of this type is characterized by (early to later primary):

- inability to adhere to rigid rules;
- rules viewed as fluid, flexible, and easily adapted to immediate needs;
- rules being decided upon spontaneously;
- playing at games rather than following actual rules;
- inability to understand the point of rules;
- increasing control of actions, behavior, and reactions within established limits;
- emergence of acceptance of prearranged rules;
- increasing involvement in computer games and simulations, board games, and card games;
- understanding of sports-related games (e.g., four-square, tether ball);
- many games having characteristics more similar to social conventions rather than competitions (*Mother, Mother, may I?*, *Red Light, Green Light,* and *King of the Hill*);
- game challenges being combined with role enactment of familiar stories;
- individual and team competition becoming more evident;
- cooperation with others becoming a necessity for competition.

Teachers create environments wherein children are actively invited to seek knowledge through exploration and play. Children have an active voice in initiating learning needs. Teachers respond to these needs by planning learning experiences that are enjoyable, challenging, intellectually interesting, and which allow the learner freedom to make choices, self-direct learning, and collaborate with the teacher in the active construction of knowledge.

> *"Playful approaches to higher order cognitive skills such as critical thinking . . . are especially important during the elementary years as children begin to be able to 'play with ideas,' testing their thinking and comparing it with that of their peers. Opportunities for creating playful challenges that have comfortable level of risk are crucial during this age period and should be available at school."*
>
> *Doris Bergen and Sherri Oden, Designing Play Environments for Elementary Age Children, 1988.*

"In symbolic play the child operates without penalties, trying out variations and possibilities both in reality and fantasy. The learning of new concepts and skills requires that exploration and manipulation precede systematic investigation. The child needs time to decide how the new knowledge can be related to previously learned material. During this period of imaginative play, children represent the things of the real world and act out experiences that are important to them."

Ontario Ministry of Education, 1988.

"Cooperative games, in which children do not have to use strategies that require outwitting or beating one another, are more developmentally appropriate for these ages as well as more congruent with the social goals of more early childhood classrooms."

C. Kamii and R. DeVries, Group Games in Early Education, 1980.

Social Interaction

Experiences designed to foster intellectual development can be enhanced by the rich environment and quality of interaction provided by the teacher.

The teacher can enhance children's thinking and language development by encouraging the rich possibilities contained in the dialogue accompanying the child's active involvement in meaningful, developmentally appropriate learning experiences of all kinds.

Because learning is accommodative, the teacher frequently plays a direct teaching role, structuring specific situations within which a child may learn. The teacher's questions and comments to each child play a critical role in extending thinking.

When a child is expected to learn or practice independently, activities selected are usually within her/his developmental level.

"The younger the children, the more the content of interaction should relate to their own first-hand experiences and real environment. With increasing age and experiences, children can and should be encouraged to develop their understanding of indirect experiences."

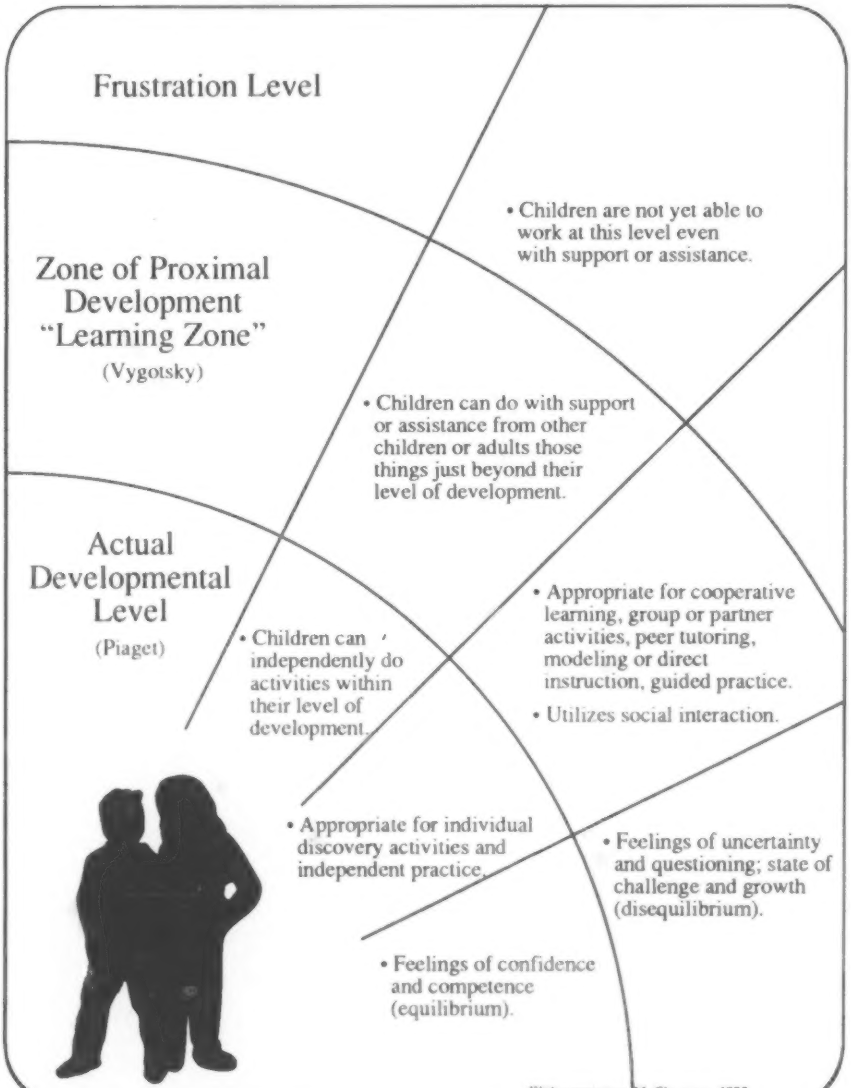
Lilian Katz and
Sylvia C. Chard,
Engaging Children's Minds: The Project Approach,
1990.

> *"Each cognitive developmental level results in new constructions of knowledge of the world and new ways through which that knowledge can be organized and used. But levels are not a simple matter of maturation. At any point in time there is a developmental level which characterizes what a child can do and problems he or she can solve independently or spontaneously."*
>
> *Patricia K. Arlin*

This does not mean, however, that teachers wait for the child to develop and mature. Teachers must stimulate the cognitive functions that are in the process of developing. With support or assistance, in collaborative and supportive situations, a child is capable of much more than working alone. Thus, to facilitate learning, teachers work with children or set up situations in which children work together. Vygotsky's explanation of the zone of proximal development, the "learning zone," illustrates how people are able to stretch beyond their individual capabilities toward more mature cognitive functioning when they learn together. The zone of proximal development is:

> *" . . . distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaborations with more capable peers."*
>
> *L.S. Vygotsky, Mind in Society, 1986.*

Support to Independence


Frustration Level
Zone of Proximal Development "Learning Zone"
(Vygotsky)
Actual Developmental Level
(Piaget)

- Children are not yet able to work at this level even with support or assistance.
- Children can do with support or assistance from other children or adults those things just beyond their level of development.
- Children can independently do activities within their level of development.
- Appropriate for cooperative learning, group or partner activities, peer tutoring, modeling or direct instruction, guided practice.
- Utilizes social interaction.
- Appropriate for individual discovery activities and independent practice.
- Feelings of uncertainty and questioning; state of challenge and growth (disequilibrium).
- Feelings of confidence and competence (equilibrium).

With permission, M. Chapman, 1990.

"The zone of proximal development defines those functions that have not yet matured but are in the process of maturation, functions that will mature tomorrow but are currently in an embryonic state."

L.S. Vygotsky,
Mind in Society, 1986.

Developing Thinking Through Meaningful Learning Experiences

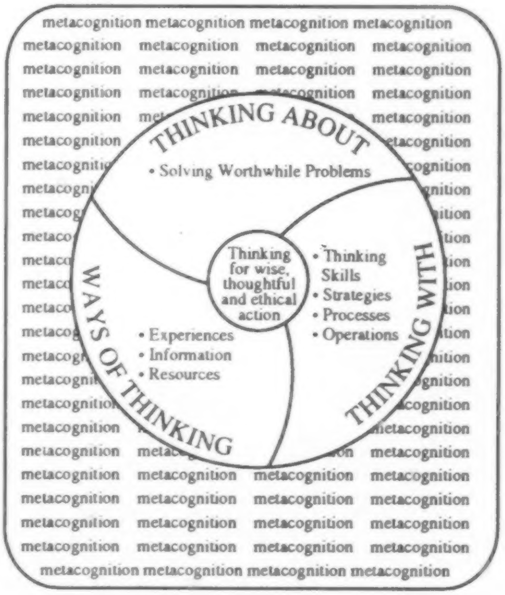
In order for children to become thoughtful learners, they must be invited to actively engage in worthwhile activities that capture their interest and imagination. Thinking is an integral part of all aspects of the curriculum, not something to be taught in isolation as an "add on."

All children require opportunities to learn as much about how thought processes work and about their own thinking as possible so as to expand their repertoire of thinking strategies. Teachers can encourage learners to greater sophistication in the use of strategies for thinking, but for learners to internalize each strategy, they must reflect upon its use and limitations personally.

Fostering children's thinking abilities requires a supportive classroom environment in which mutual respect and cooperation, risk-taking, error, and individual differences are valued. Teachers plan experiences and guide the learners in making connections, but it is only when learners are provided with time and encouragement to talk about, represent, and reflect upon their experiences that they truly gain understanding.

A Framework for Thinking

To make effective program decisions which enable children to inquire, represent, and reflect upon their thinking, the teacher considers thinking in its broadest sense. The following model may provide a useful framework for examining thinking.


metacognition
THINKING ABOUT
• Solving Worthwhile Problems
WAYS OF THINKING
• Experiences
• Information
• Resources
THINKING WITH
• Thinking Skills
• Strategies
• Processes
• Operations
Thinking for wise, thoughtful and ethical action

Thinking with Information and Experience

Growth of thinking is a function of prior knowledge, information, and experience. It is the richness and variety of these experiences which shape children's thinking. Information and misinformation, concepts and misconceptions, have equal influences in developing thought.

Expanding a child's variety of learning experiences expands his or her opportunities for trying new ways of thinking.

Thinking Processes

Examples of specific thinking processes familiar to all teachers are:

- comparing
- sequencing
- imagining
- hypothesizing
- evaluating
- judging
- justifying
- clarifying
- goal setting
- estimating
- synthesizing
- predicting
- inferring
- analyzing
- critiquing
- defining
- classifying
- decision-making
- observing
- linking
- creating
- inquiring
- focusing

Thinking processes can be taught. Analyzing and breaking thinking into discrete units may be helpful for instructional and diagnostic purposes. However, whatever the dominant thought process, many skills and strategies are inevitably involved in any one operation. Therefore, the teacher does not rely on any one approach or program to teach children about thinking. The teacher's instruction is guided by broad, interactive conceptions of thinking processes. Such conceptions acknowledge the complexity of thinking as well as the varied applications of thinking.

Thinking About Meaningful Problems

Thinking does not occur unless there is something worthwhile and of interest to think about. Because thinking strategies learned in a specific situation may not transfer automatically to a new situation, instruction is designed to help the learner build connections.

Some examples of important bridges that must be built through learning experiences are those between:

- past experiences and present challenges;
- reason and imagination;
- criticism and creativity;
- teaching and learning;
- decision-making and moral judgment;
- school life and real life.

In designing instructional opportunities, the teacher links the thinking processes required in school with the thinking processes needed in "real" life. The teacher invites students to think about problems relevant to their own lives, to the lives of others, and to society in general. This presents children with rich opportunities for using a wide range and variety of thinking processes.

The Application of Thinking

How thinking is applied is of critical importance. Contemporary society is faced with problems of tremendous complexity. Thoughtful actions based on good judgments as well as a concern for long-range effects are desired. Ultimately, we seek a combination of development of responsibility and wise action.

Metacognition

The teacher teaches children about thinking as well as ways to apply thinking strategies. Metacognition is the term used for this process. It encompasses awareness and understanding about different ways of thinking; dispositions or behaviors that affect the quality of thinking; monitoring and evaluating thinking processes so that improvements can be made; and thinking extrapolated to other situations.

The goal of teaching thinking strategies is to develop thoughtful learners—children who have learned different ways of thinking, can apply them to real life problems, and can call upon the kind of self-criticism that guides wise action. How we apply thinking is of critical importance. Ultimately, the quality of learning and the wisdom of actions are determined by how the thought processes are put to use.

Fostering the Development of Thinking Strategies

The teacher fosters the development of thinking by engaging children in meaningful learning experiences which encourage:

- inquiry
- representation
- reflection

Inquiry

Children who are provided with opportunities to ask questions of themselves, classmates, teachers, and other adults will develop skills that promote lifelong learning. The role of the questioner, formerly that of the teacher, needs to be jointly assumed by the learner so questions can be asked, solutions sought, and learning enhanced. As children are encouraged to ask questions for the sake of learning, their interest in and responsibility for their own learning increases. The environment in which mistakes are accepted as a natural part of learning allows each child to take risks and develop the confidence to become an "inquiring voice" (Watson, Burke, & Harste, 1989). In considering the development of a thoughtful, questioning learner, the inquiring teacher might ask:

- Does the child generate questions?
- Is the child committed to his or her questions?
- Does the child ask different kinds of questions?
- Does the child like finding out?
- Does the child shift thinking as a result of new knowledge gained through asking questions?
- Does the child show joy in learning?

"Being human entitles you to an inquiring voice, and it's from asking new questions and old questions for which current answers seem unsatisfactory that real learning emanates."

D. Watson, C. Burke, and J. Harste, Whole Language: Inquiring Voices, 1989.

Representation

Children acquire knowledge as they think about and try to make sense of their world. They represent this knowledge as they give form to personal thoughts and ideas and communicate their thinking. Children need repeated opportunities to represent their experiences and thoughts in a variety of ways.

Levels of Representation

Representation may occur at three levels: concrete; transformational; and symbolic/abstract. Children represent their thinking in a variety of ways at each level (e.g., talking, which is abstract, begins before the age of two).

Representation of Knowledge

		Forms of Representation
LEVELS OF REPRESENTATION	**Concrete**	• Imitation • Dramatic and socio-dramatic play • Creative dramatics • Puppetry • Clay, sand, block construction • Dance, creative and rhythmic movement • Music • Responsive movement • Counting with objects • Three-dimensional models including concrete graphs and maps
	Transformational	• Drawing • Painting • Collage • Pictures • Pictorial signs • Pictographic writing • Gestures • Tally marks • Pictorial graphs
	Symbolic/ Abstract	• Talk or related expressive forms • Conventional writing (alphabetic or related expressive forms) • Symbolic paintings • Mathematical symbols • Musical notation • Symbolic signs • Symbolic graphs and maps

- *Concrete Representation*–direct representation using overt physical action and/or three-dimensions (e.g., socio-dramatic play, block construction).
- *Transformational Representation*–indirect representation, resembles the concrete, uses two-dimensions (e.g., drawing, maps, tallies).
- *Symbolic/Abstract Representation*–symbols bear no direct resemblance to the concept represented (e.g., talk or related expressive forms, writing, numbers).

As children explore a variety of forms of representation, the teacher provides them with opportunities to select how they might wish to represent their learning. In this way, children develop an appreciation of representation not as a "decoration," but as a way to reflect upon and communicate their thinking. In this way, too, the teacher assists each child to make connections and transfer ideas from one context to another, matching appropriate representational strategies to specific situations (e.g., "I want to know what you understand about light." Appropriate strategies: experiment, model, art, photography, written report, collection, etc.).

The teacher who values and models reflective thinking and who provides time and encouragement for children to be reflective greatly enhances children's abilities to solve problems and make thoughtful decisions.

Children have opportunities to more closely examine their own thinking as they are encouraged to choose different forms of representation and explain these choices. Choice of representational forms also enables more learners to represent thinking in ways that match individual learning styles. As children have opportunities to select ways of representing their knowledge, teachers have opportunities to evaluate children's thinking and to examine each child's ability to communicate knowledge meaningfully.

Reflection

Children require time and encouragement to reflect upon their thinking. Through reflection, children may be helped to clarify thinking, to reconsider ideas, and make new connections. This allows children to monitor and assess their thinking. As well, the teacher places value and emphasis on the process used to arrive at the product of thinking rather than on the product (or answer) itself. In this way, the child and the teacher both develop greater understanding of the child's thinking. The teacher who values and models reflective thinking and who provides time and encouragement for children to be reflective greatly enhances children's abilities to solve problems and make thoughtful decisions.

Using Language to Facilitate Thinking and Learning

It has been said language is not only the vehicle of thought but also its driver. We clarify and extend thinking as we communicate through language. Children need opportunities to develop ideas through language and to talk about their thinking. Through language, children discover, generate, and express ideas; explore and extend ideas; examine, reflect upon and refine ideas and thinking processes.

Language and Thought

Language and thought are interrelated and interdependent. Language is a means of structuring and representing knowledge and is, therefore, an integral part of intellectual development. For example, language enables us to deal with concepts of past and future, so increasing the range, flexibility, and fluency of thought.

Children learn not only the language system of those around them but also the values and attitudes that are inherent in the way language is used. If we don't talk to children except to give them orders, they will grow up to learn that language is used mainly to control. They may never learn that they can use language to explore and learn about their world. However, if children are accustomed to engaging in talk that allows them to express what they think, to ask questions, to reflect on their thinking, and to form new ideas, they will learn the value of language as a means of gaining knowledge and of understanding the world. Thus, language becomes a vehicle for learning, and children will seek ways to communicate with others in this way.

"The relation of thought to word is not a thing but a process."

L.S. Vygotsky, Thought and Language, 1986, rev. ed.

Representation through Language

During the primary years, the child's language develops as part of a larger and more complex system of representation. Language is the most complex and abstract mode of representation. While other forms of representation (e.g., construction, modeling, drawing, moving) bear some resemblance to the objects or events they symbolize, language is expressed in symbols bearing no such resemblance. Language often accompanies other forms of representation and plays an important role in that representation.

Children develop the ability to represent things and to communicate ideas through oral language, for example, by:

- using names for objects in the environment;
- using words to identify the properties and functions of objects;
- using words to denote location in space and time;
- using words that describe relationships (comparing, describing differences and similarities, enumerating, measuring, ordering);
- using words to relate physical knowledge;
- using words to relate social knowledge;
- using words to describe events and tell stories; and
- using words to convey personal feelings and thoughts.

"Language develops as part of a larger system of representation. It is only one way of representing the world."

E. Labinowicz, The Piaget Primer: Thinking, Learning, Teaching.

Through language, we communicate needs and desires, gain and pass on information, and direct the actions of ourselves and others. Representation through oral language is of significance in the primary years since it is critical for communication and enhances cognitive development. As children learn to read and write, they represent their ideas in written language and begin to read the printed form.

In considering the importance of language in the primary years, we are reminded that:

- the level of language children have acquired in early years, their understanding of oral language, and their experiences in hearing and seeing written language are decisive factors in developing the ability to read and write;
- to become literate, children need rich experiences with both spoken and written language;
- the teacher needs to make use of every opportunity possible to extend and enrich the child's understanding and use of language.

The language of children varies widely according to their stages of development. The child's explorations during the sensorimotor stage prepare a foundation for the emergence of language. The preoperational stage influences the child's construction of language. Upon entering the concrete operational stage, the child's thinking becomes operational or logical. This emergence of logical thought further influences the development of language and is accompanied by related changes in language usage.

Using strategies for appraising children's language assists the teacher in understanding the child's language, thinking, and representational abilities. The teacher needs to be alert to the child's language to recognize the kinds of knowledge being represented as the child communicates with others in the course of the school day.

For example, one child may have learned a word but may not understand the concept. Another may be familiar with a concept but not have the language. Yet another may understand a concept and have the language, but may be reluctant or unable to talk, although he or she may be confident about representing knowledge in other ways (e.g., constructing, modeling, drawing, and moving).

Engaging young children in "hands on" and "minds on" activities gives the teacher many opportunities to foster and enhance language representation. The ways in which teachers dialogue with children as they learn enables them to foster the child's language and thinking and to observe the development of the child's ability to represent and communicate through language.

Using Language for Communication

For more information, refer to: Joan Tough, Listening to Children Talking: A Guide to the Appraisal of Children's Use of Language, Heinemann Educational Books, Inc., 1983.

To communicate effectively in listening, speaking, reading, writing, viewing, and visual representation, children need opportunities to:

- use language for a variety of purposes;
- use language in a variety of forms for a variety of audiences;
- understand and interpret ideas through listening, reading, and viewing in developmentally appropriate ways;
- express thoughts, knowledge, and feelings through speaking, writing, and visual representation in developmentally appropriate ways;
- develop an understanding of the nature and purposes of language; and
- learn about other forms of communication such as signing.

In order to develop effective communication, children also need opportunities to:

- hear good language models;
- engage in dialogue with adults and other children;
- play with ideas and language;
- experiment with language in all its forms; and
- experience and respond to literature and non-fiction.

Factors Affecting Language Development

Children are born with an innate ability to learn language systems. But many factors affect their development of language processes and skills:

The family's language: The language of the child's family is probably the greatest factor governing which language is used, how it is used, and the degree of complexity with which it is used.

Expression of needs and wants: The very strong motivation in young children to express their needs and desires leads them to master the language system of the family. If children get no response to their use of language, they may not pursue it and may become delayed in their acquisition of language.

Natural curiosity: Natural curiosity about the world requires children to use language to make meaning. Attaching language to real, first-hand experiences allows children to create different ways of thinking about, looking at, and understanding the world. This understanding leads to a greater sense of competence and agency, of being able to understand and influence what goes on around them.

Stage of development: The way children use language reflects their way of perceiving the world. Each child has a unique way of expressing himself or herself. Young children do not use an adult system of language because their thinking processes are not adult. Their use and understanding of words as they represent concepts develops as children move from the concrete operational to the logical thinking stage.

Dialogue: Dialogue between child and adult and between child and child is essential for the continuing growth and development of a child's language. It is the quality of verbal interaction between child and adult that governs the quality of a child's thinking and use of language. The teacher of young children engages them in conversation dealing with their experiences and helps them relate this to their new learning in order for optimal development to take place.

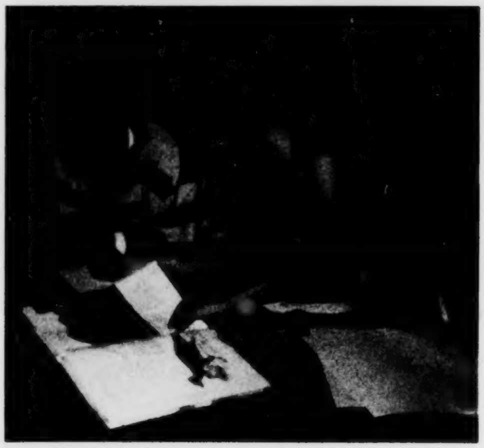
Developing Communication Skills

Communication skills develop in a social environment which offers opportunities for children to communicate in natural, meaningful ways. The teacher promotes and develops communication by consciously planning for these and by modeling a caring, thoughtful, and sensitive tone in interactions with children. The teacher demonstrates his or her own commitment to language development by establishing a supportive environment which promotes effective communication.

Communication is a social process. The goal of instruction in communication is not to learn about communication but to learn to communicate. The emphasis is on creating opportunities that encourage students to interact with the teacher, with each other, and with others in the school and community.

People communicate for a purpose, and this purpose controls the type of language that is used. In order to foster language development, the teacher is aware of the purpose for which the child is using language. As and when this is appropriate, the teacher provides direct instruction about communication and in this way is able to guide children to extend their use of language to a more complex level.

As children listen, speak, read, write, or represent, they construct meaning through language. In order to get meaning from spoken or written words, the child must actively search for meaning and bring meaning to the experience. Thus, comprehension of a written text is just as much a function of the meaning a listener or speaker brings to the text as of the meaning he or she is able to derive from the text.



Speaking, writing, and representing are processes through which children derive personal meaning and convey meaning to others. As children draw, talk, write, listen or read for a purpose, they naturally integrate the language processes. Integration of language can be understood in three different ways:

- **Learning each of the language arts in terms of the others.** For example, reading development is enhanced not only by reading experiences, but through experiences with listening, speaking, writing, and representing. Growth in any mode of language leads to growth in the others.

- **Learning each language strand (e.g., writing) as an integrated whole.** Skills are not ends in themselves but are parts of processes. For example, spelling is part of writing. Spelling skills are acquired most effectively through the process of writing.

- **Learning language as part of acquiring knowledge.** For example, as children learn mathematics, they develop not only the concepts of mathematics, but the language and the symbolic representations of mathematics as well.

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Developing and Integrating the Attitudes, Skills, and Knowledge of Fine Arts, Humanities, Practical Arts, and Sciences

Learning experiences in the primary years should lead to the development of attitudes, skills, and knowledge relevant to all curriculum areas. The teacher helps children see the relationships which exist among these learning dimensions (attitudes, skills, and knowledge) and across all curriculum areas. In this way, understanding develops as a meaningful whole rather than in fragmented, isolated pieces. When children recognize the connections, relationships, and commonalties to be found within the learning dimensions of each curriculum area, they are then able to transfer and apply this learning to new situations. In primary classrooms, the integrated nature of learning is emphasized as children participate in meaningful, developmentally appropriate learning experiences related to topics of interest and relevance to young learners.

Becoming an Independent, Lifelong Learner

In order to deal effectively with our challenging and changing world, children need to develop strategies which will help them find solutions for the increasingly complex problems they will face in the 21st century.

While a rich and varied content base is necessary for young learners, even more critical is the ability to access, evaluate, organize, and use information effectively. The primary program offers opportunities for children to:

- access, select, and make use of information from a variety of sources;
- assess which information is significant and relevant; and
- organize information for effective communication.

Successful learners view themselves as successful problem-solvers. They enjoy solving problems, both independently and in collaboration with others. The independent learner can both cooperate and collaborate recognizing that learning is both an individual and a social process.

Activities and experiences which have value and relevance in the classroom and to the world beyond school are fundamental for children to become self-directed, to think divergently, and apply problem-solving strategies. This increased sense of self-direction and growth in autonomy enables children to approach new learning with enjoyment, confidence, and satisfaction allowing them to embrace all that life has to offer and to see the potential of each new experience.

> *"We need to shift the focus from either content or process to human educational development. There may be many roads to this end, but some avenues have withstood the test of time. Students who learn how to communicate effectively, who can organize and direct their attention and efforts, who have a healthy curiosity and skepticism, who understand how to inquire and who can ask the right questions, and who recognize something about how we as a species have come to know and believe things and have expressed ourselves about the great themes of human life, these students seem to be best equipped to direct their own lives and act to change their circumstances and those of others for the better."*
>
> *Milton McClaren, Preparing Navigators for the Ships of the Future, 1989.*

Physical Development and Well-Being

> *"Play and recreation activities are major contributors to the physical, social, emotional and intellectual development of children. In fact, it is seen to be as important to their growth and development as are the basic needs of nutrition, health, shelter and education."*
>
> *Suzing Hum, Play and Recreation, 1979.*

PHYSICAL WELL-BEING is an integral part of total well-being. It is essential for living and learning. The primary program provides children with experiences to help them learn about their growth and development; the importance of the interrelationships between physical activity, nutrition, safety, health and recreation; and their own role in maintaining a healthy life-style.

Characteristics of the Learner:

- *unique,*
- *active,*
- *energetic,*
- *muscles still developing,*
- *needs mobility, and*
- *learns by handling things*

Children have a natural curiosity about and interest in learning about themselves and their bodies. The teacher plans a balanced instructional program and provides opportunities for a range and variety of experiences, which allow for varying responses reflecting differing ranges and levels of ability. Although young children have varying degrees of control over health, nutrition, and safety factors, they need to learn about their roles and responsibilities where they do have choices. In the primary program, children learn about issues that affect their well-being so they may make informed and responsible decisions about health, nutrition, and safety.

It is important in the development of all children that regular activities for physical development be included in their school experiences. For some children, adaptations may be needed to help them cope with their unique challenges.

The primary program provides experiences that help children:

- learn and practice safety measures;
- take care of and respect their bodies, avoid abusive substances;
- develop an awareness of good nutrition;
- maintain physical fitness;
- develop an appreciation and enjoyment of human movement; and
- learn social skills in a physical activity setting.

These experiences throughout the child's day make it essential that the classroom teacher and the specialist in physical education collaborate regularly to provide active learning throughout the curriculum.

> *"The health and safety of children should be paramount considerations . . . . We help children, learn, understand, and observe cautions as sensible behavior."*
>
> *Bess Holt and Gene Holt, Science with Young Children, 1977.*

Learning and Practicing Safety Measures

A regard for and appreciation of safety and well-being is essential. The teacher ensures the learning environment is safe and that children are aware of and actively attend to the safety and well-being of themselves and others. The teacher helps children understand their role in maintaining health and safety, and children learn to extend these attitudes, skills, and knowledge into the wider community.

Taking Care of and Respecting One's Body

Healthful living implies regard and respect for one's body. In the primary classroom, the teacher builds on the personal habits and attitudes established in the home in the child's early years. With other significant adults, the teacher models and helps children learn about all aspects of healthful living. The teacher provides experiences that help children learn about safety and well-being, care of the body, and nutrition to help children appreciate their own roles in providing for a healthy life.

Developing a Wide Variety of Motor Skills While Promoting Physical Fitness

Physical fitness is one component of a healthy life-style. The teacher capitalizes on the natural characteristics of children to be active learners and assists in developing a wide variety of motor skills for everyday life and leisure activities. In planning activities that stem from children's need to play, move, and explore, the teacher provides children with opportunities for the development of fitness—cardiovascular and muscle endurance, strength, flexibility, and weight management—and an understanding of the need for fitness.

Developing Awareness of and Practicing Good Nutrition

While we are all born with inherited traits which influence our physical characteristics, environmental factors also impact upon our health. One of many important factors in a child's growth and development is nutrition. In the primary program, learning about food directly through cooking, tasting, and experimenting provides children with hands-on experiences that help them learn best. These experiences are designed to help children understand that optimum growth and development and efficient body functioning are dependent on appropriate nutritional habits.

Developing Appreciation and Enjoyment of Human Movement

We value physical accomplishment and respect athletes and artists who push physical movement and activity to the limits of performance. The primary program helps children develop and maintain health and well-being through an appreciation and enjoyment of movement and activity. Young children develop muscle control, coordination, body awareness, space awareness, and physical fitness as they explore and practice natural body movements. Physical development is promoted in a non-competitive environment.

Developing Social Skills in a Physical Activity Setting

Society encourages the development of leisure activities, many of which take place in a physical activity setting. In the primary classroom, children learn many social skills through games and activities. Being part of a group, working with a partner, operating within rules, collaborating to create new rules, being a leader, sharing, listening, and cooperating are but a few examples of the skills learned through such group activities. In the primary classroom, each member of the group makes a unique and important contribution in maintaining the goals of the entire group. Caring, thoughtfulness, consideration of others, loyalty, and honesty are qualities that are nurtured and encouraged.

Development of Responsibility

> *"As people become more sensitive to others' feelings and more willing to cooperate for the collective good, our planet will become a much healthier and happier place to live, for all of us. Moves in this direction are absolutely essential to ensure a decent quality of life, and to ensure life itself."*
>
> *Terry Orlick, Winning Through Cooperation: Competitive Insanity–Cooperative Alternatives, 1978.*

THE WAY WE VIEW the world and act upon it is directly related to our attitudes, beliefs, and values. Responsibility requires that people understand the interdependence of social and ecological issues and be willing to commit themselves to making a difference. In the primary program, children are helped to move beyond an egocentric view of the world toward developing an ability to appreciate and understand broader, complex issues and to contribute individually and collectively to their solutions. Experiences that help children learn critical thinking, conflict resolution, individual and collaborative decision-making, and a sense of community prepare them to seek solutions based upon awareness and understanding of what it means to be responsible.

The primary program provides children with experiences to help them learn to:

- value and respect individual contributions and uniqueness;
- value, respect, and appreciate cultural identity, diversity, and heritage;
- accept and demonstrate empathy;
- establish a collaborative environment and acquire cooperative and independent social skills;
- become responsible members of society;
- respect and care for the environment; and
- adapt to a changing world.

Characteristics of the Learner:

- *unique,*
- *social,*
- *willing to help,*
- *impressionable,*
- *develops autonomy through play,*
- *heightened awareness of individual differences,*
- *eager to assume responsibility.*

Valuing and Respecting Individual Contributions and Uniqueness

In order that people throughout the world live in dignity and at peace with one another, a greater understanding of our interdependence in social, moral, and ecological ways is required. We need to appreciate how each and every one of us has a unique contribution to make. We also need to learn what the scientist David Suzuki calls the "power of one," that is the difference that just one individual can make to the whole. As children learn about themselves and their culture, they begin to understand how all people share similar needs, feelings, and aspirations, and how everyone has a contribution to make regardless of background and differing ability levels. The teacher provides activities to help children increase their awareness of others through understanding the similarities all people share. In this way, children can be helped to understand that differences add richness and diversity to our society.

We need to help children develop a love and understanding of what all cultures share . . . children will grow up to respect, honor and value those qualities that contribute to the multicultural fabric of our society.

Valuing, Respecting, and Appreciating Cultural Identity, Diversity, and Heritage

Cultural identity is an integral part of who we are. As we grow in our understanding and appreciation of ourselves within our own culture, we move from our egocentric view of the world toward an awareness, tolerance, appreciation, and understanding of other cultures and their customs, characteristics, and history.

In the primary classroom, as children learn to value themselves and reach out to form friendships, they begin to develop an appreciation of others. The teacher provides a variety of activities that foster a healthy development and respect for cultural similarities and differences, always honoring children's backgrounds and experiences. As children learn to view others, their first vision is often through the lenses of those they love and respect. We need to help children develop a love and understanding of what all cultures share–being human.

By focusing on our similarities as humans, children can learn to accept cultural and individual differences. In this way, children will grow up to respect, honor, and value those qualities that contribute to the multicultural fabric of society.

Accepting and Demonstrating Empathy

In their earlier years, children tend to be egocentric, often viewing and acting upon the world solely on the basis of their own thoughts and feelings. But as children learn to participate in the groups to which they belong—family, school, and community—we help them to realize all people share similar feelings and need the support and encouragement of others within the group. Through discussion and negotiation, classroom community expectations can be established. Appropriate modeling and demonstration of empathy help children to develop sensitivity to their own feelings and those of others.

Becoming a Responsible Member of Society

Thinking, learning, and living are closely interrelated as are the individual and society. Learning to cooperate and cooperating to learn are the first steps to working together to ensure the viability of our global community. The primary program helps children understand their individual and collective rights and responsibilities as members of society. Children are given opportunities to interact with others in many contexts for many purposes, to cooperate, to collaborate, and to share in the building of community within whatever task they are involved. In this way, they understand that all actions have reactions and no decision stands alone.

Teaching children to become part of the solution rather than part of the problem is essential for restoration and preservation of the environment for future generations.

Respecting and Caring for the Environment

For humans to survive as a species requires a greater understanding of and respect for the natural order of the world. By learning about the social, physical, and biological worlds, children learn to understand the place of humankind in the natural order. The teacher can use everyday events as they occur to help children focus on relevant environmental issues and to encourage children to become proactive in their communities. Teaching children to become part of the solution rather than part of the problem is essential for restoration and preservation of the environment for future generations.

Adapting to a Changing World

Because we live in a rapidly changing world, we are continually faced with decisions that may have long lasting impacts on ourselves and others. We want children to grow up to be able to confront and reflect on difficult ethical issues and to make responsible choices. As children come to understand and appreciate the complex issues of our society, they are more likely to be able to act in thoughtful and responsible ways. Children need to learn in environments that allow them to experience respect for themselves and others in order to understand the moral issues of our society and act upon them.

> *"Education should provide each learner with knowledge and understanding of the social, physical, and biological worlds and the balance between man and his environment and should develop attitudes and behaviors leading to intelligent use of the environment."*
>
> *Massachusetts Board of Education,*
> *Coming to Our Senses.*

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Building Commitment to Change

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Building Commitment to Change

The Paradigm Shift

At the heart of the primary program is a shift in thinking about teaching and learning. Primary teachers have always known many things about young children just by being with them day after day. After a few hours in the classroom, it becomes apparent children are physically and mentally active; they interact with the people and things around them, and they constantly use language.

Some of these behaviors were once thought to be problematic in a school setting because the paradigm of schooling called for classrooms to be quiet and adult-like. But, a deeper understanding of how young children grow and learn dispels the need to spend time and energy forcing children to be something they are not.

Expanding information in the past few years supports the belief that children are different from adults both physically and intellectually. A new paradigm is needed if children are to learn in the ways they learn best. The image of school becomes one of a place that is active and interactive, a place where adults and children can thrive.

School needs to be a place where problems are posed and solutions are generated; where mistakes are made and valued as learning experiences; where cooperation is nurtured in the face of conflict; where teachers, parents, and children make decisions **together** about what is best for the children.

In this new vision of teaching and learning, the people involved confront their beliefs in light of this information. They become keen observers of children and develop a sense of what children can do independently, when they need support, and what can be expected as a next step in children's development.

Implications for the Primary Program

A commitment to a new paradigm takes time and energy, but is well worth the joy and renewal it brings to those who work with young children. As this document is read, return often to the chart on the next two pages to reflect on beliefs. Use it as a guide and a gauge for the development of thinking and practices. Include it as a reference at meetings and training sessions. Use it to compare the characteristics of traditional practice to those of the vision toward which the school community is working.

The Primary Program: A Paradigm Shift

Shift from: ....

Child adapts ....

Child as passive ....
Child as dependent ....
Whole group instruction ....
Individual tasks ....
Preset material is covered ....
3 R'S instructional focus..

Separate subjects...
Workbooks...

Verbal informational emphasis..
Single correct answers...
Work and play divided...
Holiday rituals marked...

Teacher as the sole arbitrator of what is correct..
Grouping is by ability or age ....

Assessment is of what a child already knows..
Assessment is for classification and reporting...

Child is recipient of the teacher's teaching..
Answers are valued..
Paper and pencil representations...

A Continuum of Change

.... **To:**

.... Schools adapt

.... Child as active
.... Child as a partner in learning
.... Whole group, small group, and individual instruction
.... Balanced small groups, cooperative and individual tasks
.... Children's capacity to learn is extended
.... Focus is on concepts, skills, processes, and attitudes in five goal areas

.... Integrated subjects
.... Concrete materials, quality literature, and a variety of resource materials

.... Constructivist, problem-solving, thinking emphasis
.... Alternative solutions are generated
.... Play is one condition of learning
.... Multicultural content is based on the study of social experience

.... Children as theory builders and negotiators
.... Group is developed by interest, motivation, and learning needs

.... Assessment focuses on how a child learns and what a child "can do"
.... Assessment is ongoing for purposes of instructional decision-making

.... Child is collaborator in own learning
.... Questions are valued
.... Multiple ways of representing knowledge

Adapted from Dr. Patricia K. Arlin's opening address, "New Beginnings," May, 1989, U.B.C., based on Doris Pronin Fromberg, "Kindergarten: Current Circumstances Affecting Curriculum," Teachers' College Record, 90, pp. 392-43.

Managing Change

There are critical factors which influence whether planned change succeeds or fails. There are also some concepts relative to change that must be kept in mind. People will support change if there is agreement that change is needed and if specific goals are shared by all.

Change, by nature, cannot be understood by only reading about it. The references and resources in this section are a starting point for managing the process, the rest is up to those involved. As the journey begins remember to . . .

Celebrate Learning for Children and Adults

- Learning is a lifelong activity. The process of change in curriculum implies many learning opportunities for those involved. A purpose for learning must be created through common goals.

Nurture the Professionals

- Provide a wide range of learning experiences. An array of options ensures that individuals can choose according to learning styles. Study groups, workshops, classroom observations, opportunities to try out new ideas, or a combination of these can be tailored to individual needs.

- Create opportunities for self-selected activities. The change process can be more comfortable if those involved can begin with a familiar interest and pursue change as an approximation towards a goal. Motivation to learn is higher when personal interest is present.

- Allow time to explore, try out, create, and construct. Meaningful change requires patience. An artist is rarely hurried in his or her work. Planning on paper is part of the process, but there comes a time for action. Leaders can reduce the stress of change by encouraging risk-taking without high stakes.

- Accept and recognize problems as learning opportunities. When people are immersed in real problems, they are challenged to create solutions. Problems are often the indicators of what we need to do differently or what the next step should be. Mistakes are a natural part of the process of learning; successful change embraces them as such.

- View collaboration as essential. Adults learn from one another. Encourage the use of language to share successes and difficulties. The opportunity and time must be provided for teachers to talk about the frustrations and satisfactions they are experiencing. Teachers are typically isolated in the classroom. They need to practice the skills of collaboration as they plan, discuss, design activities, and teach each other about new strategies.

Principles of Implementation

Implementation is the process of putting a new program into practice. It involves careful planning, open discussion, and adaptation of original plans. A positive approach which emphasizes existing strengths can help those involved in the implementation process to avoid many problems.

The process of implementation recognizes the classroom as the focus of all educational activity. School administrators within a district must share in the responsibility for coordinating and supporting ongoing staff development opportunities to meet the individual needs of teachers.

The key agent in implementation is the teacher. Successful program implementation occurs only when teachers commit themselves to the philosophy of the new curriculum, learn what changes are involved, discuss them with colleagues, and adapt them to suit local conditions and the needs of their students. The chart on the facing page outlines the responsibilities of all involved in implementing change.

Factors for Consideration

Consider these factors in planning and implementing change:

- The ultimate goal of all new programs is to enhance the quality of classroom life and to help children learn more effectively. This goal needs to be clear to all who are involved in the process of implementing a new program.
- Every new program begins with planning, and planning is involved at every stage of the implementation process.
- Successful implementation of a new program requires time and resources. The school board and administration must commit time and money to change.
- It is the responsibility of the district leadership to articulate the vision for change and to plan for staff development opportunities. Administrators have an active role in the process.
- Those involved in implementation must be willing to change and adjust to the new direction.
- Change is a process of professional development and growth. It is both a personal and social experience.

Roles of Participants in the Change Process

Teachers	• implement change by translating curriculum documents into relevant learning experiences in their classrooms.
School Administrators	• assume leadership for ensuring that curriculum implementation takes place within the schools and support and guide these activities.
School District Personnel	• ensure that curriculum implementation takes place within their schools; plan, facilitate, and evaluate the implementation process; and support both classroom teachers and administrators.
Curriculum Specialists	• provide implementation initiatives for the district's plan; carry out district implementation plans; implement individual projects; assist schools with the implementation of their priorities; and evaluate implementation procedures.
School Boards	• respond to the need for materials; • support development of the curriculum and its implementation; and • are informed regarding implementation of policy directions; review implementation progress reports from the administration and members of stake-holder groups.
Educational Community	• identifies the nature of change.
Parents and the Community at Large	• are consulted for the need for change in education.

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Partnerships with Families and Communities

PARTNERSHIPS IN EDUCATION build bridges between families, communities, and schools. As children interact with the people, places and things associated with the family, the immediate community, and beyond, they extend their horizons to develop the attitudes, skills, and knowledge they need to become effective citizens.

A true partnership is characterized by respect for all parties. In a teacher-parent partnership, the parents' knowledge and insights about their child are valued as much as the teacher's. In a community-family partnership, all members of the community should recognize changing family needs in order to raise children in an environment that provides the conditions for health, safety, and learning.

Every adult has a stake in the welfare of children. It is essential for adults to build bridges in order to work together so children are healthy and safe. It is important that a rich and supportive learning environment be created. Schools, families, and community members must recognize these common goals and work together for the sake of children.

"It is time . . . for us to join together as an entire nation and in every community to establish an ethic of service and achievement and to help support strong families for all our children . . . ."

Marion Wright Edelman, The Measure of Our Success, 1992.

Family-School Partnerships

A family-centered perspective is essential to the success of the family-school partnership. The importance of involving parents in the education of their children cannot be overestimated. Teachers must constantly remember that parents are the child's first teachers and that a partnership between home and school benefits children, families, and teachers alike.

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Teachers and other school personnel who work with children in the primary program should:

- involve parents in setting goals for their child's learning program; parents who have ownership in the planning will assume more ownership in the follow-through;
- value parents' opinions, concerns, ideas, and visions;
- recognize that parents care very much about their children;
- view parents as key contributors to their child's school experiences, i.e., consider parents' resources and talents when planning day-to-day activities for children;
- find ways to collect information from parents that can be used for developing the child's learning program, e.g., home visits, interviews, phone calls, and contributions to the child's portfolio;
- share information about how children learn and child development as it relates to the classroom setting;
- involve parents actively in parent-teacher conferences, e.g., joint conference planning, preconference phone calls, and interviews;
- talk regularly with children and encourage them to share information with their parents;
- communicate regularly with parents about the primary program through the children and through print materials, phone calls, home visits, informal parent gatherings, and parent education workshops;
- use problem-solving strategies with parents;
- appreciate and respect family values which may be different from their own;
- refrain from criticism and judgment, both publicly and privately, in school facilities such as the teachers' lounge and other settings;
- maintain a warm, friendly, open, and responsive school climate that encourages parents to spend time at school; and
- provide opportunities for parents to interact with other parents and school personnel, e.g., family rooms, parent discussion, and support groups.

Parents are encouraged to:

- advocate for their child's needs by becoming involved in their child's learning;
- model and demonstrate enthusiasm for learning;
- create an environment supportive of learning;
- take an active role in communicating information that may benefit their child's learning at school;
- take advantage of daily learning opportunities with their children, i.e., reading, parent-child conversations, family outings;
- support their child's growth and learning in all five goal areas: aesthetic and artistic development, emotional and social development, intellectual development, physical development and well-being, and development of responsibility (see *Appendix A* for specific ideas);
- become knowledgeable about the primary program;
- take part in classroom activities and support other school events;
- support their child's growing independence and decision-making skills; and
- advocate for policies which guarantee quality experiences for their children.

Types of Collaboration with Parents

In her research, Joyce Epstein identified six types of family-community-school collaboration that can foster the development of family-school partnerships and strengthen support for learning. Each type, listed below and discussed on the following pages, describes opportunities for parents and families to become actively involved in their child's learning:

- School help for families;
- School-home communication;
- Family help for schools;
- Involvement in learning activities at home;
- Involvement in governance, decision-making, and advocacy; and
- Collaboration and exchanges with the community.

School Help for Families

Schools provide assistance to families in relation to families' basic obligations to:

- ensure children's health and safety;
- acquire parenting and child-rearing skills needed to prepare children for school;
- supervise, discipline, and guide children at each age level; and
- build positive home conditions that support school learning and appropriate behaviors.

School-Home Communication

Schools have a basic obligation to:

- communicate about the primary program;
- communicate children's progress;
- communicate in a variety of formats such as memos, reports, conferences, telephone calls, and newsletters; and
- communicate frequently so information is understood in a timely manner by all parents.

Family Help for Schools

Families help schools when they:

- volunteer to assist teachers, administrators, and children in the classroom or other areas;
- come to school to support children's participation in the arts and other school events; and
- attend school workshops and other programs for their own training and education.

Parent Involvement in Learning Activities at Home

At home, parents can help schools through:

- parent-initiated activities with their child;
- child-initiated requests for help from parents; and
- ideas or instructions from teachers for parents to monitor or assist their children at home in learning activities coordinated with their children's school work.

Parent Involvement in Governance, Decision-Making, and Advocacy

Other parental roles include:

- assuming decision-making roles in the PTA/PTO, advisory councils, and other school groups;
- taking advocacy or decision-making roles at the district and state levels; and
- participating as parent and community activists in independent advocacy groups that monitor schools and work for school improvement.

"Parent involvement is the participation of parents in every facet of the education and development of children, from birth to adulthood . . . . Parent involvement takes many forms, including the parent's shared responsibilities in decisions about children's education, health and well-being, as well as the parent's participation in organizations that reflect the community's collaborative aspirations for all children."

National PTA Board of Directors, June, 1990.

Collaboration and Exchanges with the Community

This refers to involvement of any institution that shares responsibility for children's development and success, including:

- programs that provide access to and coordinate with community and support services for children and families; and
- other arrangements that draw on community resources to support children's learning.

Using the work of Epstein and others (see *References and Resources* at the end of this section) allows families and schools to build upon a variety of options for parent involvement. Participation at whatever levels families choose is welcomed by the school.

All parents are encouraged to participate at their own level of competence and to proceed as they are ready. Schools are encouraged to build upon the strengths of families and support the efforts of parents to become more involved in their children's learning.

Family-school interactions must be well-planned. A true family-school partnership is ongoing, purposeful, and reflects the vision shared by families and schools for children.

Home and school are of primary importance in the lives of children. Each provides unique and essential support for children's learning. Combining and coordinating the efforts of families and schools creates a powerful force that results in high quality programs for children.

Community-School Partnerships*

> *"We must have a place . . . where children can have a whole group of adults they can trust."*
>
> *Margaret Mead*

Community Involvement

People develop commitments to causes, organizations, and activities for which they have had some responsibility. An undisputed finding of educational research is that the active engagement of the learner and the involvement of families and the community enhance learning.

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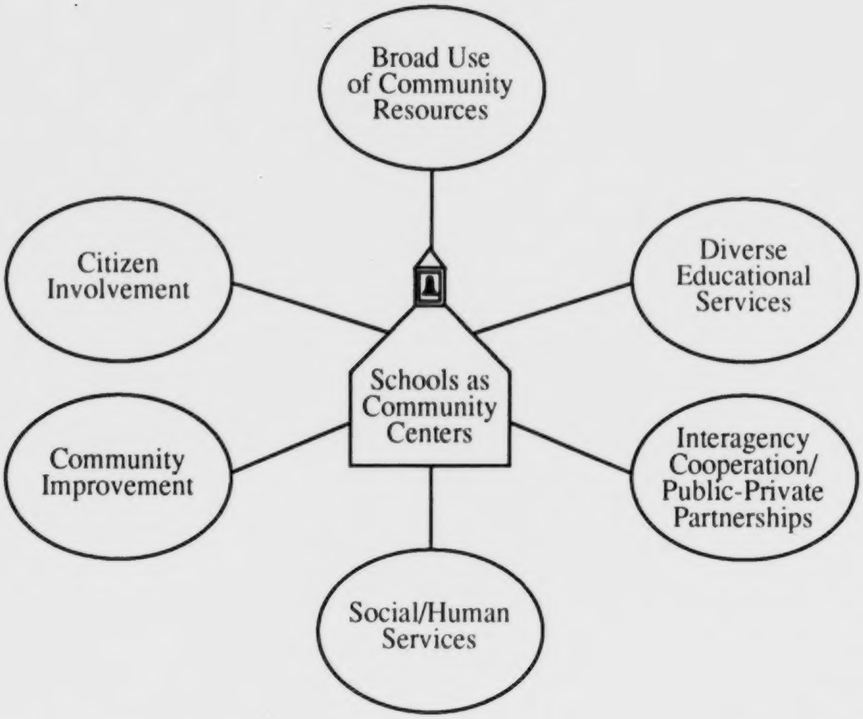
* This section is reprinted with verbal permission from Decker, Larry E. & Associates. (1990). *Community Education: Building Learning Communities*, pp. 4-8. National Community Education Association, Alexandria, VA.

In communities across the nation, broad-based community involvement has resulted in increased academic achievement, improved school climate, and more effective communities.

Community Education Goals

In the community education model, the school functions as a support center for the network of agencies and institutions committed to meeting community needs and expanding learning opportunities for all members of the community. Using ***schools as community centers*** is a cost-effective, practical way to use one of the community's largest investments, its school buildings.

Schools as Community Centers


Broad Use of Community Resources
Citizen Involvement
Diverse Educational Services
Schools as Community Centers
Community Improvement
Interagency Cooperation/ Public-Private Partnerships
Social/Human Services

By providing ***diverse educational services***, community education helps meet the varied learning needs of community residents. Class instruction in a variety of skills helps meet the needs of business and industry. Child care services for preschool and school-age children help parents who cannot afford or lack access to private services.

Programs that respond to the needs of adults who wish to gain new skills, improve existing skills, or who just like to keep on learning help a community become a learning community. By tapping the abundant expertise that exists in any community, community education helps bring the concept of "everyone learns, everyone teaches" closer to reality.

Through ***interagency cooperation and public-private partnerships***, communities reduce duplication of effort, and overall effectiveness is improved through team work. Businesses and private agencies provide services not affordable in the usual tax-supported budget.

In return, schools, in cooperation with other community agencies, address such community problems as illiteracy and substance abuse which adversely affect the community's business environment and quality of life.

Through ***community improvement efforts***, many members of the community can be engaged in litter control, recycling, beautification, and improved education and recreation services. Each community improvement effort can make the community more attractive to both current and prospective residents and businesses

Through ***citizen involvement***, the process of community problem-solving is restored to its rightful place: to those people closest to the problem, who understand it best.

When a broad range of ***community resources*** is used for learning, the role of the total community in the process of education the citizenry is acknowledged. Young people learn from and with community elders. Our schools become places where learning and living meet.

Principles of Community Education

Community education provides local residents and community agencies and institutions the opportunity to become active partners in addressing community concerns. It is based on the following principles:

- **Self-Determination.** Local people are in the best position to identify community needs and wants. Parents, as children's first and most important teachers, have both a right and a responsibility to be involved in their children's education.

- **Self-Help.** People are best served when their capacity to help themselves is encouraged and enhanced. When people assume ever-increasing responsibility for their own well-being, they acquire independence rather than dependence.

- **Leadership Development.** The identification, development, and use of the leadership capacities of local citizens are prerequisites for ongoing self-help and community improvement efforts.

- **Localization.** Services, programs, events, and other opportunities for community participation have the greatest potential for participation when brought closest to where people live. Whenever possible, these activities should be decentralized to locations of easy public access.

- **Integrated Delivery of Services.** Organizations and agencies that operate for the public good can use their limited resources, meet their individual goals, and better serve the public by establishing close working relationships with other organizations and agencies with related purposes.

- **Maximum Use of Resources.** The physical, financial, and human resources of every community should be interconnected and used to their fullest if the diverse needs and interests of the community are to be met.

- **Inclusiveness.** The segregation or isolation of people by age, income, sex, race, ethnicity, religion, or other factors inhibits the full development of the community. Community programs, activities, and services should involve the broadest possible cross-section of community residents.

- **Responsiveness.** Public institutions have a responsibility to develop programs and services that respond to the continually changing needs and interests of their constituents.

- **Lifelong Learning.** Learning begins at birth and continues until death. Opportunities for formal and informal learning should be available to residents of all ages across a wide variety of community settings.

Results of Community Education

Communities that formally adopt community education as a way of community life have the tools to attack many difficult problems. These communities exhibit the following characteristics:

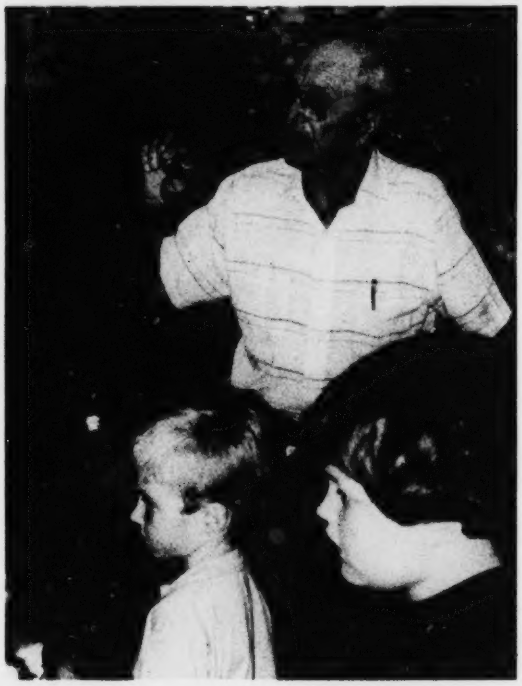
- someone has an official leadership role in coordinating the various community and school efforts;
- volunteers help deliver community services;
- businesses work in partnership with schools to improve student learning as well as to expand economic development;
- agencies and institutions cooperate to deliver improved services to the total community;
- public school facilities are used by community members of all ages;
- parents are involved in their children's learning and in school governance;
- community resources are used to enhance and enrich the schools' curriculum;
- educational alternatives are available for students with special problems and special talents;
- opportunities for lifelong learning are available for learners of all ages, backgrounds, and needs; and
- large numbers of citizens are participating actively to help solve community problems.

When these characteristics are observed, positive results are not far behind. These results may include:

- schools and other community agencies are more response to parents and other community members;
- an improved learning climate and increased student achievement are evident in schools;
- broad-based community support exists for schools and for other community agencies; and
- the community works together to try to solve its problems.

"As America strives to improve its schools, it's imperative that all elements of the community work together to assist students and educators. Quality education is an investment in the community; but everyone – parents, business leaders, church leaders and others – have a role to play. Helping students learn is a community affair."

Lew Armistead, President, National School Public Relations Association.



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**Denotes a family-school partnership focus; others contain a strong community-school partnership focus.*

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Appendix A

Resource Materials for Communicating With Parents

Materials in this appendix can be used when communicating with parents about children's learning and development. As teachers develop materials, presentations, and conferences, they can use this information as a guide while personalizing their messages to parents and children. Information might be developed into a series of newsletters, workshops, or incorporated into existing formats. Whatever the setting, it is best to use the information in a meaningful way taking care not to overwhelm parents. Teachers must first know their children and families, then work with them to identify their informational needs. In this way, teachers and schools respect the prior knowledge of parents and their decision-making abilities.

Supporting Learning at Home

The charts of widely held expectations (see the *Assessment* appendix) provide a summary of children's development over time in the five goal areas. In schools, teachers use these widely held expectations to assess children's development and to plan instruction. At home, parents and others can support and encourage the child as a developing learner in a number of ways. On the following pages are activities that may provide some assistance. Parents will want to add other ideas to the list.

Aesthetic and Artistic Development

Keep a variety of art, modeling, and craft materials on hand. Provide paper of different sizes and colors, including construction, paper, newsprint, gummed paper, wrapping paper, aluminium foil, and other recycled materials. You might start a collection of pencils, crayons, felt tip markers, chalk, modeling clay, scissors, glue, transparent tape, used wrapping paper, pictures from old greeting cards, sticks from ice cream treats, bits of cloth, yarn, ribbon, egg cartons, buttons, twist ties, pipe cleaners, and other materials. Encourage your child to spend time exploring their use. Ask what he or she enjoyed most and discovered about the materials.

Encourage your child to accompany musical selections with home-made instruments. If possible, show your child how to record and listen to music using an audio cassette recorder. Remember, this music-making will be child-like. Encourage your child to explore sounds and rhythms and to tell you about them and their production.

Attend musical performances, concerts, and recitals with your child. Sing and play selections to be performed before hand. Ask your child what he or she remembered and enjoyed about the performance and why.

Use simple comments that show you recognize and appreciate your child's efforts, e.g., "Your painting reminds me of the fun we had at the beach."

For family fun, play pantomimes or charades. One person acts out an action while the others guess what is being done. For very young children, use familiar actions such as eating an ice-cream cone or raking leaves. Older children might enjoy more complex miming reflecting the senses, thoughts, or feelings.

Continue to provide an assortment of old clothes, accessories, and other props for your child to play with. Also, keep assorted fabrics and ribbons of different colors and textures for your child to dance with.

A radio or tape recorder your child can use independently may provide music. Use an assortment of music types to broaden your child's listening experience (nursery rhymes, children's songs, marches, tangos, jazz, popular, classical, religious).

Puppet making is suitable for most levels of development and can be simple (stick, paper bag, or paper plate puppets) or complex (sewn puppets or marionettes).

Encourage your child's thinking by asking questions and helping to seek answers. Always encourage your child to ask questions. When there is no clear answer, say things such as "What do you think?" and "Where can we go to find the answer?"

When going for a walk or drive, encourage your child's observation skills by commenting on and asking about the larger environment (sky, mountains, forest, water) as well as the smaller, more intricate environment (leaves, flowers, grasses, bugs, pebbles).

Emotional and Social Development

Read and discuss books about friendships. Talk with your child about friends. Ask questions such as "What do you think a friend is?" and "What do you like about having a friend?" Other questions might include "How do you think friends act with each other?" and "What can you do to meet a new friend?"

Even if it is not done perfectly or takes a little longer, encourage your child to perform daily tasks such as getting dressed, making a simple breakfast, or setting the table. It is important for your child to feel successful in participating in family routines.

Provide opportunities for your children to make personal decisions about clothing choices, healthy snacks, family menus, story times, and other matters.

Participation in volunteer activities such as community, recreation, or hospital functions helps your child recognize the kinds of contributions that can be made. Seeing themselves as helpers can contribute to children's self-confidence.

Give positive reinforcement for your child's dreams and goals, regardless of how impossible they might seem. Say, for example, "Those are fascinating ideas. I can see you thought this out yourself."

Help your child create a "me" poster or collage using drawings, photographs, and magazine pictures. Help your child decide where to display the poster and comment on your child's special qualities.

Children may enjoy writing to a pen pal from another country as a way of developing a new friendship.

Your child also may enjoy some form of organized activity that provides opportunities to meet others. Ask your child to talk about personal preferences and then support your child's decisions about such activities as dancing, art or music lessons, organized sports, and boys' or girls' clubs. Discuss how these decisions will affect your child, you, and other family members in terms of time for friends and hobbies, providing rides, changing meal times, and any other pertinent points. Provide gentle guidance in terms of what you already know about your child's regular activities.

Sharing special times is crucial in the development of your child's self-image. Being hugged and held by a parent, settling in comfortably with a favorite story, walking to the park, working together to complete a task, and sharing thoughts and feelings are all important activities which contribute to your child's development.

Set reasonable limits and maintain stable routines your child can anticipate, e.g., meal times, family commitments, television viewing, and bed times.

It is not always easy to maintain a positive approach or to avoid focusing attention on non-productive behavior. However, with an informed and honest approach, you are showing your child how to deal effectively with issues or problems as they arise. For example, "Paul is playing with the shovel now. Let's see what else you can find to play with until it's your turn." Communicate with your child about the behavior you expect. For example, "Let's paint on the newspapers so there won't be spills on the floor."

Intellectual Development

When you read to your child on a regular basis, you also model that reading is important in your life. If you build up and maintain a home "library" that contains books of interest to all family members, your child will have access to a wide variety of reading material. You also might want to visit the public library on a regular basis. Young children like books with large print and many illustrations. It is important to read to your children from books you yourself consider to be important. Continue reading to your children once they learn to read independently!

During regular family activities, provide opportunities for your child to organize, classify, and use easily remembered information. For example, when unpacking groceries, ask your child to put all the fruits, canned goods, and frozen items together. When doing the laundry, ask your child to help sort clothing into whites and colors, work and play clothes, or into other interesting categories. You can also suggest sorting kitchen cutlery, school supplies, coins, tools, shoes, and other objects.

If possible, provide a plain calendar with large squares to write messages. Discuss special days and record comments to help your child remember appointments, special events, and other important dates and activities.

Make sure your child's day is not planned out entirely. Free play is important. Provide time, space, and materials for your child to create personal projects.

Help your child become aware of what he or she is doing through language by putting words to actions. For example, talk through the process of tying shoelaces. Use appropriate language, but play word games such as rhyming and synonyms. Playing with language is not "baby talk." This is how children learn.

Provide opportunities for your child to gain a variety of experiences. The more experiences they have, the more personal knowledge they gain. "Memorized" knowledge is soon forgotten, but outings such as walks, car trips, special family events, sporting events, camping trips, picnics and visits to the beach, library, museum and fair all provide experiences that enable children to make connections and see how ideas and events relate to one another.

Provide encouragement for activities for which your child says, "Let me try!" or "I can do that?" Always ensure your child's health and safety first.

Encourage your child to talk about personal experiences by asking questions such as: "What do you like about this?" "What did you not like about this?" "Would you recommend this to a friend?" "What do you think would happen if . . . ?"

Physical Development and Well-Being

Encourage your child to attempt new and interesting activities. Provide encouragement and support, but if the activity poses a real safety hazard, explain this to your child.

Play games or sing songs that help your child to identify body parts (head, shoulders, knees, toes).

Expect your child to move from one activity to another. It is normal for children to find it difficult to sit still or to stay with one activity.

If you become involved in games with your child and your child's friends, avoid elimination games where someone is "out." Suggest games that include all players and do not focus on scores and winning.

Children like to trace life-size outlines of their bodies on paper. Encourage and help your child to decorate the art and to locate and name body parts.

Ask your child to come up with his or her own safety rules when playing a game or using equipment.

Your child may enjoy being part of a team or group. Encourage a team sport that helps your child remain active into adolescence. If you are involved in organized team sports, model the kind of behavior you would like your child to exhibit.

Provide access to different kinds of music during play time. This can add enthusiasm to your child's movements or soothe or relax after strenuous play.

If possible, make an at-home obstacle course with your child to provide opportunities for crawling, jumping, running, and hopping.

Maintaining a balance between free exploration and excessive risk taking is not easy. When experimenting with new activity such as jumping on a trampoline, try not to over-use phrases such as, "Be careful!" or "You might get hurt!" Do provide background for the activity in terms of the safety rules and how to use equipment.

Demonstrate and discuss your ideas about safety procedures in everyday life (crossing the street).

Demonstrate and discuss your ideas about nutrition (eating a balanced meal).

Development of Responsibility

When arguments occur between your children or their friends, help them become their own problem-solvers. Ask questions such as, "What do you think the problem is? or "How many different ways can you think to solve this?"

Share newspaper and magazine articles with your child. Find articles that tell of events affecting children and families in other places. Follow what happens. Ask questions such as the following: "How do you think they feel?" "What would you do if you were in this situation?" "Do you think they need some help?" "Who could provide that kind of help?" "Is there something we can do about this?"

Your child may enjoy participating with you in a community group.

Keep a family photo album for your child and you to look at and talk about. Talk about your child's heritage. Attend cultural and ethnic celebrations and festivals to introduce your child to the heritage of others. Talk about the similarities and differences.

Your child may enjoy writing to a pen pal from another country as a way of developing a new friendship and knowledge of another culture.

Encourage family members to show appreciation for one another by extending courtesies such as sending notes. Very young children can dictate the notes which then can be placed in lunches, on the refrigerator, or passed out at supper time.

Talk about how stress can lead to conflict. Discuss ways in which your child can handle conflicts, problems, fights, and arguments.

Take your children on nature walks. Encourage them to use their senses (seeing, listening, smelling, touching, and tasting, if appropriate).

Encourage your child and your family to examine your own practices that affect the world around you.

Talk to your child about what to do in emergency situations. Rehearse these situations from losing mittens to calling the police.

Talk about how each family member contributes to the well-being of others in the family, in the community, and in other groupings.

The consequences of family decisions affect everyone. Give your child opportunities to make choices.

Sharing Information about the Child

Informal Conversations

Conversations which parents, teachers, and children have on an informal basis are among the most natural and successful ways of sharing information. They provide opportunities to:

- share current information about the child;
- share personal anecdotes and insights; and
- give reassurance about the child's efforts and development.

Informal Notes and Messages

Written informal communications can include:

- personal notes;
- home-school communication books; and
- classroom news bulletins.

Telephone Calls

Parents and teachers may call one another to:

- keep in touch;
- share news of importance to the child;
- plan how to support some aspect of the child's learning; and
- establish a partnership role.

Individual Conferences

Conferences are an opportunity for:

- parents to share information and insights about their child's development at home;
- teachers to share information and insights about the child's development at school;
- setting goals for the child's learning;
- making plans to support the child's learning.

Some teachers encourage children to take part in conferences as a way of helping them understand their learning and to become more responsible for their own progress. Each school and teacher sets the schedule for individual conferences, but parents can request a meeting any time.

Collections of Work

Establishing collection systems to store information about what a child can do provides a basis for ongoing assessment and evaluation. Consider:

- dated samples of drawings and writing;
- copies of reports and projects;
- photographs;
- audio and video tapes;
- computer disks; and
- student self-assessments.

Anecdotal Reports

The anecdotal progress report describes the child's development in relation to the goals of the primary program. It is intended to provide information about the child individual progress. It may precede or follow a parent-teacher conference. Anecdotal reports give information about:

- accomplishments (what a child can do);
- attitudes and interests;
- learning needs; and
- future learning goals and plans for support.

Sharing Information about the School and Classroom

Newsletters

Newsletters are one way schools establish ongoing communication and can solicit parent reaction and input as well as provide information about:

- school and classroom activities;
- upcoming events and activities at school and in the community;
- student success stories; and
- samples of student work.

Parent Evenings and Open Houses

Parent evenings are a time to get a sense of the school and classroom atmosphere. This can be a time for parents to:

- learn about the goals the school has for all children;
- find out what children are learning as well how they represent learning; and
- look at their child's work.

Informal Visits

Although the school is the usual place for parents and teachers to exchange information, some teachers plan informal get-togethers in other settings such as:

- classroom outings (picnics, walks);
- homes; and
- community facilities.

Term Outlines

Many teachers provide parents with information about what has been and what will be the focus of classroom learning experiences. These provide information about:

- themes to be explored;
- classroom projects;
- special activities;
- curriculum plans; and
- field trips.

Classroom Visits

Classroom visits can be arranged through the teacher to provide:

- children with a chance to see their parents and teachers cooperating;
- opportunities to talk; and
- parents with first-hand opportunities to observe what their child can do in the school setting (see the *Assessment* appendix for parent observation forms).

Appendix B

Families as Advocates and Policy-makers

Families, teachers, administrators, and other school staff benefit from working together to solve problems, exchange views, influence other decision-makers, and advocate for children. Parents who, individually or in groups, are willing to advocate for their own children or for other children are true friends of the school, not adversaries. Individuals who are willing to be involved need a variety of options for their involvement, training, support, and encouragement. Not all parents wish to be involved in the same role or same degree at all times. Because of the large number of working parents and other changing family demographics, schools need to explore new and creative ways to work together. This partnership needs to be forged through effective and frequent communication. Opportunities for supporting families as advocates, decision-makers, and policy-makers include:

- establishing a dedicated phone line for families to deal with emergencies, rumors, and sensitive issues;
- encouraging all teachers to communicate frequently with families about curriculum plans, expectations for homework, grading policies, and how families can help;
- directing families' concerns, questions, and complaints to appropriate staff;
- informing families of their rights regarding access to school records, due process in disciplinary actions, and participation in special education decisions;
- setting up teacher-parent conferences upon request;
- providing in-service training or other opportunities to help teachers communicate and collaborate with families;
- notifying families promptly if their children have academic difficulties or behavior problems;
- notifying families immediately if their children do not arrive at school and if unexcused absences are becoming a pattern;
- conferring with families on the choice of classroom settings and/or teachers;
- publishing a handbook for families that covers current policies on discipline, absences, dress standards, and parent and student rights;
- obtaining family input when developing new policies or programs;
- scheduling regular parent-teacher organization meetings;
- encouraging families to approach the principal on their own initiative to question school policies or procedures, aside from situations that affect only their child;
- informing and enlisting the help of families immediately when problems occur at school which involve community concerns;
- establishing procedures for dealing with sensitive issues; and
- giving families representation on committees for curriculum development, school accreditation, assessment procedures, and other topics.

Easing Transitions

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Easing Transitions

Adapted from the U.S. Department of Health and Human Services, Head Start Bureau

Introduction

IF YOU HAVE ever moved from one location to another or been separated from friends, you know how hard a transition can be. Going from a known, comfortable environment to one that is different and unfamiliar can be very stressful. This is often how young children feel as they move from preschool to the primary level of schooling, between groups within the primary program, and from the primary to upper elementary level. (Note: In this section, preschool refers to any group setting outside the home, e.g., child care, Head Start, nursery school, etc.)

Increasingly, young children today are participating in early childhood programs prior to enrolling in the primary level of schooling. For many children, the primary teacher is not the first teacher and the primary class is not the first group experience (Glicksman & Hills, 1981).

For young children, the transition from preschool to the primary level may be met with delight and concern. While there is the pleasure of accomplishment as they move to something new, there also may be anxiety over leaving friends and teachers they know and love for the less familiar (Chapel Hill Training-Outreach, 1986). For parents, there is pride in seeing their child grow to meet new challenges, yet there is also concern for how their child will cope with the change and what this situation may bring to their role as parents.

For the preschool teacher, the transition means saying good-by to children to whom they have grown attached, with the hope that what has been gained will provide a foundation for continued growth. For the new teacher, it means saying hello to a new group of children, with the goal of building the new program upon their diverse backgrounds and experiences.

Because we know learning is a continuous process, the transition from preschool to elementary school is important for all who educate and care for young children. Preschool and primary programs are important influences in children's lives. Programs in prekindergarten classes, nursery schools, child care centers, Head Start, and family day care homes should be built on the growth taking place in the first years of the child's life. In turn, primary programs should be built on the learning and development that have taken place in the home and through earlier educational experiences (Glicksman & Hills, 1981).

Similarly, upper primary and upper elementary programs build upon earlier experiences and recognize that groups of children will exhibit a range of abilities and accomplishments. The influence of the family upon the child remains fundamental throughout these early years. It is important to link subsequent steps in children's education to their earlier experiences and to involve parents in these activities (Glicksman & Hills, 1981).

THIS SECTION PROVIDES a variety of ideas for teachers and administrators as they work cooperatively to establish linkages and ease transitions between educational settings for young children and their families.

If you are an administrator in either setting, you play a crucial role in facilitating the implementation of these ideas with the teaching staff. Your leadership can make a significant difference in helping teachers find time to focus on the transition process. If you are a preschool or elementary teacher, you may want to share these ideas with your program director or principal in order to gain their support.

Some programs may have already established procedures for transition. For such programs, these suggestions can serve to renew and expand current practices. For programs that have not yet addressed the issues of transition, one or more of the ideas presented here can be adopted to meet particular needs.

No matter where your program stands, the critical goal is to take a new step forward in promoting success for children and families as they move onto new experiences.

Benefits of Facilitating Transition

When early childhood and elementary educators take time to help facilitate transition, there are benefits for children, parents, and teachers.

For Children . . .

When teachers work together to help children move more easily into a new environment, the results for children may include:

- continuity with earlier educational experiences;
- increased motivation and openness to new experiences;
- enhanced self-confidence;
- improved relations with other children and adults; and
- a greater sense of trust between teachers and children.

For Parents . . .

If parents are involved with teachers in providing a smooth transition for children, parents gain:

- increased confidence in their children's ability to achieve in the new setting;
- increased confidence in their own ability to communicate effectively with the educational staff and to effectively influence the education system;
- a sense of pride and commitment to their involvement in the education of their children; and
- a greater knowledge and appreciation of early childhood programs and staff.

For Teachers . . .

Teachers who cooperate with others to ease children's transitions between educational programs can expect:

- increased knowledge of the children and an enhanced ability to meet their individual needs;
- increased parental and community support;
- increased awareness of programs in the community; and to reach out to young children and their families; and
- a renewed sense of professionalism and pride in their efforts to reach out to young children and their families.

Elements of Successful Transitions

There are four critical elements of successful transitions for young children and families as they move between settings. Educational staff can facilitate transitions by:

- **providing program continuity through developmentally appropriate curricula;**
- **maintaining communication;**
- **preparing children for transitions; and**
- **involving parents in the transitions.**

By focusing on each of these important aspects of the transitions process, a more continuous educational experience can be expected for children and their families.

Providing Program Continuity Through Developmentally Appropriate Curricula

The move from level to level is made easier if each program is focused on the individual developmental needs of the children. Programs may be operating in different types of settings with children who are different ages. However, the commonalities between the way children learn and the range of developmental levels represented in each program call for similar learning environments and teaching strategies. As discussed below, the transition between programs is facilitated by the degree to which each program is developmentally appropriate.

How does providing a developmentally appropriate curriculum facilitate the transition between programs?

Developmentally appropriate programs provide for a wider range of developmental interests and abilities than the chronological age range of the group suggests. Since each child is a unique person with an individual personality, learning style, and family background, teachers at all levels need to be responsive to these individual differences (Bredekamp, 1991).

Moving to the primary program usually means that a child will enter a new setting. However, if both programs are developmentally appropriate, children will be more likely to find similar activities which will allow them to begin their new experiences confident that they have the ability to accomplish certain tasks. Knowing what is expected adds to children's self-confidence, encourages their attempts to try new activities, and facilitates continuity in development.

What do young children have in common? (Bredekamp, 1991)

All young children learn best by:

- actively exploring their environment;
- interacting with adults and other children;
- using concrete materials and participating in activities that are relevant to their own experiences and culture; and
- building upon their natural curiosity and desire to make sense of the world around them.

All young children are continuously learning to:

- use their bodies and express themselves through physical activities;
- solve problems and experiment with change;
- develop an understanding and acceptance of themselves as individuals;
- gain more self-control and build cooperative relations with others; and
- communicate their thoughts and feelings as effectively and creatively as possible.

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What is the significance of these common characteristics for planning developmentally appropriate curricula?

During the early childhood years, children have similar learning styles. Furthermore, each program has children with a wide range of developmental levels. For these reasons, both preschool and primary teachers may establish similar environments and approaches to facilitating growth and development. For example, preschool and primary teachers can adopt the following developmentally appropriate practices (Bredekamp, 1991):

- designing experiences to stimulate learning in all areas–physical, social, emotional, and intellectual;
- planning curriculum and adult interactions which are responsive to individual differences in ability, interests, cultural backgrounds, and linguistic styles;
- providing an environment in which children can learn through active exploration and interaction with concrete materials, adults, and other children;
- organizing the environment so children select many of their own activities among learning areas including dramatic play, blocks, science, math, games and puzzles, books, recordings, art, and music;
- organizing the day so children work individually or in small groups most of their time;
- providing many opportunities for children to use small and large muscles, to listen to stories, and to express themselves creatively;
- facilitating the development of self-control in children by using positive guidance techniques such as modeling and encouraging expected behavior, setting clear limits, and redirecting children to more acceptable activity; and
- providing many opportunities for children to develop social skills such as cooperating, helping, sharing, negotiating, and talking with others to solve interpersonal problems.

In what ways are preschool and primary children different?

Although both preschool and primary programs may have children at various developmental levels, children are incrementally older. Because this extra time has brought new experiences and natural growth, children are more likely to (Bredekamp, 1986):

- expand beyond their immediate experiences of self, home, and family, developing interests in the community and world outside;
- show increased ability to use motor skills, to pay attention for longer periods of time, and to play and plan cooperatively; and
- display a growing interest in symbols including written language and a written number system.

What is the significance of these differences in planning developmentally appropriate curricula?

Although the preschool and primary rooms may look similar, the primary teacher is able to (Bredekamp, 1991):

- provide more elaboration in children's interests and activities;
- encourage more joint planning and cooperation among children;
- provide an environment which places more emphasis on stimulating written language and literacy skills which are appropriate to the individual child's developmental level and ability; and
- focus on the development of more independent work habits and enhanced ability to follow teacher directions.

What other differences exist between preschool and primary programs?

The settings of preschool programs and elementary schools are often different. For example (Glicksman and Hills, 1981):

- Group size in preschool programs may be relatively small–15 to 20 in center-based programs with 2 to 3 teaching staff, and even smaller in home-based programs. In elementary schools, there may be 25 (or more) children with 1 to 2 teaching staff.
- Preschool program schedules may be flexible; elementary schools may be required to adhere to a time schedule based in part on cooperative uses of playgrounds, cafeterias, gyms, or buses.
- Preschool programs may be smaller and more community based; primary programs are usually part of a larger institution with older children and different educational expectations.
- Preschool programs may be privately administered or cooperatively administered by parents; elementary schools are part of a public, private or parochial school system governed by an elected or appointed board.

Although each program can provide a developmentally appropriate curriculum, the setting may affect the way each program is carried out.

Maintaining Communication

Administrators can set the stage for successful transition activities by supporting communication and cooperation among early childhood teachers. Preschool and primary staff can increase program continuity by getting to know one another, sharing program information, and planning an effective transition system. Opportunities for communication and cooperation should occur throughout the program year. Communication can be enhanced when those involved are familiar and comfortable with one another. If opportunities are provided for participants to ask questions and provide information about themselves and their programs in an open atmosphere, the foundation is laid for effective cooperation during the transitions (Glicksman & Hills, 1981).

One of the simplest yet most important needs is for accurate and unbiased information about programs. Most teachers of preschool children are understandably proud of their programs and have a professional and personal interest in the young children enrolled. It may be difficult to "let them go" to what may seem like a more impersonal institutional setting. On the other hand, most primary teachers, equally proud and dedicated, strive to plan and carry out an educational program based on community expectations, school goals and objectives, and the children's individual needs. Although preschool and primary teachers may have taken different career paths, honest acceptance of each other's professionalism and commitment is essential to the transition process (Glicksman & Hills, 1981).

Most preschool and primary teachers have limited time outside the classroom. However, opportunities for formal and informal contact should be provided through the year. Since preschool teachers may have to interact with several "receiver" schools and primary teachers may have to contact several "feeder" programs, it may be helpful to establish a community-wide transition committee to involve all relevant programs in planning transition activities. The following suggestions may help early childhood educators begin the exchange between programs in a way that builds mutual respect and understanding.

Tips for Maintaining Communication (Glicksman & Hills, 1981)

- Preschool and elementary administrators can initiate opportunities for communication and exchange among teachers to begin planning for transitions.

- Administrators and teachers can plan an informal visit to meet the staff of each other's program. During this visit, staff members can get acquainted, share program information, and discuss the need for specific activities and other collaborative efforts.

- In communities with a number of preschool programs and elementary schools, a committee can be organized with representatives from preschool programs, public schools, parents, and relevant community organizations. Both preschool and elementary school administrators can be instrumental in establishing the committee. Such committees can be responsible for developing a step-by-step plan and corresponding materials to be used by all programs involved in the transition process.

- Through informal contact or through the transition committee, activities can be planned to facilitate the transition process. These may include joint registration, workshops, and other activities for parents.
- Open house can be held for primary or preschool program staff to explain the program and to get acquainted. Written materials and slides of the children can be used to illustrate the daily program.
- Teachers can visit each other's classrooms during the school year to observe. Some programs may be able to exchange staff as substitutes of occasion.
- Participation on policy advisory committees can be combined where possible. For example, ask a primary teacher to sit on the preschool program board or invite a preschool teacher to join in meetings of the PTA.
- Exchange days can be planned, e.g., between preschool and primary staff and between levels of the primary program.
- Joint inservice workshops can be developed which focus on transitions as well as other issues facing childhood educators.
- Preschool program administrators can write letters to receiving elementary schools in the spring listing the names of incoming children and communicating information about their program.
- Registration for the elementary school can be planned in conjunction with preschool programs.
- Health and social service staff can meet to discuss the continuity of services for children and families.

- Arrangements can be made between preschool and primary staff to provide special information and assistance for parents who speak languages other than English (including sign language) or who have limited literacy skills.
- Preschool staff can discuss the transfer of specific records to the school. The type of records available will vary. Some programs such as Head Start or those serving children with special needs may already have specific arrangements for the transfer of records. The most important concern in this area is to provide parents with their full rights to privacy regarding their children's records.
- Once children move on to the elementary school, follow-up discussions can be held in the fall to answer questions and discuss the progress of children.

School is a place where children and parents expect to find opportunities for growth and development from whatever starting point the children bring to the new setting.

Preparing Children for Transitions

Never before has early education reached as many children as it does today. Children entering primary programs may have attended full-day or half-day programs for one or more years. This group experience may have followed years of home-based care with a parent, relative, or other care giver. Because of the variety of programs available, children can enter the elementary level with vastly different experiences. In turn, primary programs are diverse in purpose, structure, and schedule (Glicksman & Hills, 1981).

Despite the variety of previous experiences, all children need to be accepted at their own developmental level. Preparing children for the transition to the primary program does not mean "getting them ready" by focusing on a narrow range of academic skills, drilling them on new rules, or retaining them in the preschool program another year. School is a place where children and parents expect to find opportunities for growth and development from whatever starting point the children bring to the new setting (Nebraska Department of Education, 1984).

Children need to know what is expected of them by adults in the new program and to have several opportunities to become familiar with the new environment. They should look forward to the new experience with a sense of excitement and anticipation rather than feeling threatened and fearful of what lies ahead. Transition activities for young children should be like those which prepare them for anything new and can include discussions, stories, games, dramatic play, and field trips.

The following suggestions can help preschool and primary teachers and administrators plan and implement transition activities for children. Many of these suggestions can be adapted to facilitate transitions from the primary to upper elementary programs.

Tips for Preschool Staff and Planning Transition Activities for Children (Kansas University Medical Center, 1986)

- Schedule a visit or a series of visits to the new school or classroom for the children. These visits can include a tour of the building and playground, lunch in the cafeteria, and/or activities in the new classroom. Take pictures or videos of these activities to share with children and parents.
- Help children feel comfortable and confident about the move to elementary school by discussing the new activities, schedules, and bus routes.
- Read books to the children that discuss changes and moves. Create a puppet show or scrap book with pictures of the new school. Allow children to express their feelings about the new school through dramatic play activities and by dictating stories. Encourage children to ask questions.
- If the primary program has different rules such as lining up to go the bus, the preschool teacher may want to play games to familiarize the children with the new procedures. However, avoid drilling them or creating anxiety about the new environment.
- Invite a child or older sibling from the primary program to visit and talk about the school.

Tips for Primary Staff in Planning Transition Activities for Children

- Invite parents to visit the school with their child during the school year before the child begins.
- Hold a back-to-school night in August so parents and children can visit the classroom, take part in sample activities, and meet other children and parents in the new group.

- Send a personal "letter from your teacher" or postcard to all new students in the later part of summer welcoming them to the new class. The school PTA might be contacted to provide resources for materials and postage.
- Plan to phase in groups of children during the first week of school in order to provide more individual attention to each child. The teacher may want to have children and their parents come in three different groups for an hour the first day or spend two or three days orienting five to ten children per day. Focusing on small groups of children during this initial period can promote a smoother transition for each child.

Involving Parents in Transitions

A joint effort by school and home is needed to bring about smooth transitions. This mean continuity is important for parents as well as children. For the parent, the preschool program may be a familiar family support system where there has been frequent contact with the staff. The elementary school may represent an unfamiliar environment with a different type of program for children and families.

Many parents are actively involved in their children's preschool program. Studies indicate such involvement contributes to the success of the educational program. Parents need encouragement to continue to be involved in the educational program and to help their children feel competent as they move on to elementary school. Parents can promote confidence in their children by conveying a positive attitude about the new school.

Parents also need support to work through the effect of changing programs on their daily lives. For example, locating child care that can be used in conjunction with the primary program may be a critical need for some families. As parents become more familiar with the new setting and meet other parents in their children's peers group, they gain confidence in their own power to have an effect on their children's education.

The following are suggestions for preschool and kindergarten teachers and administrators in planning and implementing transition activities with parents.

Tips for Preschool Staff to Involve Parents in the Transitions (Kansas University Medical Center, 1986)

- Provide parents with information about the school their child may be attending. Include the school's address, principal's name, telephone number, and dates for registration.
- Encourage parents to attend orientation sessions the school may plan for incoming parents.
- Discuss child care options with working parents. Provide information and referral to after-school programs. Many elementary schools now provide on-site child care.

- Invite school personnel, including teachers and principals, to attend a parent meeting and discuss the primary program, the role of parents in the school, and to answer questions regarding the school program.

- Discuss the transfer of records with parents and provide "release of information" forms to be signed by the parents. Such forms should include details on "who" is releasing "what" information "to whom" and for "what purpose."

- Help arrange a visit for parents and children to the new setting.

- Create a story about the new school for parents to read to their children. Encourage parents to build their child's confidence about going to school.

- Introduce parents to other parents of children who will attend the new program. Encourage meetings of new classmates prior to school opening.

- Discuss changes in services for parents that may not be available in the elementary school. For example, some preschools programs, especially Head Start, may help parents with health appointments and transportation. This may not be available in the new program.

Tips for Primary Staff to Involve Parents in the Transitions (Glicksman & Hills, 1981)

- In the spring, invite new parents to a general orientation about the new program and the opportunities for parent participation.

- Encourage parents to volunteer in the primary classroom prior to September.

- Provide a parent orientation package including the child's new schedule, transportation procedures, required school forms, food service, and other program information.

- Send notes to parents prior to school opening which encourage parent involvement and offer suggestions for helping children feel at home more quickly during the first few days of school. The letter may include tips on what parents might say to their children to ease anxiety about the first day, a description of the activities planned during the initial weeks, suggestions for comfortable apparel, and bus schedules.

- Introduce new parents to parents of children already in the program. The PTA may be helpful in establishing a "buddy system" between "old" and "new" parents.

Summary

Planning for the transition of children as they move from preschool program to the primary level and on to upper elementary provides continuity in their early educational experiences. The transitions are made easier when **all** programs are developmentally appropriate and respond to the individual needs of each child.

Communication and cooperation between teachers at all levels leads to a greater understanding of each other's program has an increased ability to plan together for the transition. When children are prepared for making the transition to a new program, they gain self-confidence and are more likely to succeed. When parents are included in the transition process, it renews their sense of involvement in their child's education.

As teachers and administrators plan and implement the ideas present in this section, they will be helping to provide a more coordinated educational experience for young children and their families.

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Assessment and Evaluation

Introduction

IN EVERYDAY SPEECH, "assessment" and "evaluation" are often used interchangeably. In the primary program, a distinction is made between the two terms. Assessment is the process of gathering evidence of what a child can do. Evaluation is the process of interpreting that evidence and making judgments and decisions based on that evidence. The quality of information gained through assessment determines the quality of evaluation; that is, evaluation is only as good as the assessment on which it is based.

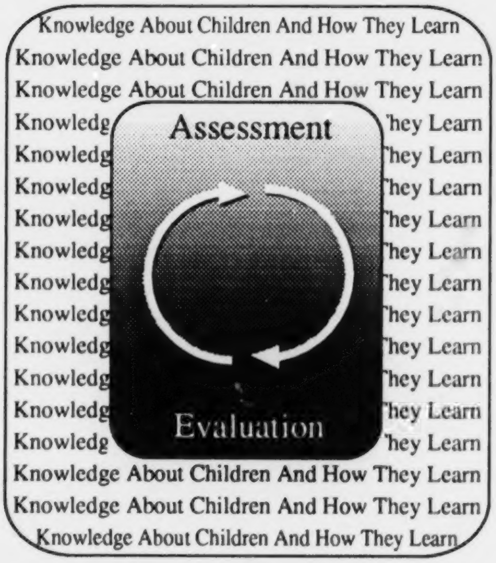
Assessment and evaluation form part of one process (see Figure 1). In the context of the classroom, teachers carry out both parts of that process, often almost simultaneously. For example, a teacher's observations of a child and conference with that child (assessment) may lead to an immediate decision (evaluation) about instruction. For the purposes of the primary program, we use the terms assessment and evaluation together, reflecting the integrated nature of the process.

"Good teaching is inseparable from good assessing."

Grant Wiggins, Phi Delta Kappan, May, 1989.

FIGURE 1

The Continuous Process of Assessment and Evaluation



"Our assessment and evaluation must be centered in the classroom, consistent with our goals, consistent with what we know about learning; comprehensive and balanced."

R. Anthony, T. Johnson, N. Mickelson, and A. Preece, Primary Program, British Columbia Ministry of Education.

Purpose of Assessment and Evaluation

The purpose of assessment and evaluation is to support and enhance the child's learning. Thoughtful, sensitive, supportive assessment and evaluation are prerequisites for learning. They are crucial in enhancing children's growth and development. They are fundamental to the success of the primary program.

Assessments and evaluations are used to make decisions about the learning process **of every child** on a continuous basis. In some situations, a child may need special support to be successful in the learning environment. The student assistance team may be used to address concerns raised by the assessment process. The suggestions in this section should be helpful to a student assistance team when considering alternatives.

> *"Under conditions of performance goals, children focus on gaining favorable judgments of their ability or avoiding negative ones. Under conditions of learning goals, children seek to increase their understanding of something new."*
>
> *Lilian Katz and Sylvia Chard, Engaging Children's Minds: The Project Approach, 1989.*

The purpose of assessment and evaluation is to:

- gather evidence on what a child can do, determining individual strengths and learning needs;
- help the teacher make informed instructional decisions, set learning goals, and shape a curriculum based on the strengths and needs of the child;
- provide feedback to the child;
- help the child develop and value the practice of assessing and evaluating his or her own learning;
- describe the child's growth and development in all goal areas of the program;
- provide a basis for communicating progress to the child, to parents, and to school personnel;
- nurture and develop a positive self-concept in the child; and
- enable the learner and promote lifelong learning.

On Standardized Testing

> *"(The) Association for Childhood Education International position paper decries the continuing potency of standardized testing, it argues that teachers and parents should oppose using test results to make any important judgment about a child. And it sets forth unequivocally the belief that all testing of young children in preschool and grades K-2 and the practice of testing every child in the later elementary years should cease."*
>
> *Vito Peronne, "On Standardized Testing," Childhood Education, 1991.*

Alternatives to conventional standardized achievement testing are evolving and appropriate methods of assessing student progress should be thoroughly explored. (See the position statement on standardized testing in the *Guiding Principles* section.)

Group standardized tests are not regarded as accurate methods of assessment and evaluation for children in primary classrooms. The information gathered from a group standardized test is generally unreliable, unpredictable, and not connected to the kinds of learning experiences recommended in this document. It is of concern that school districts may disregard the comprehensive findings that standardized tests are potentially harmful when used to make judgments about young children.

The National School Boards Association has joined the recommendation of the National Association for the Education of Young Children, the Association for Childhood Education International, and the National Association of Elementary School Principals to eliminate the use of group standardized tests for all young children.

When considering methods of assessment, remember norm-referenced standardized tests typically:

- do not promote student learning and are poor predictors of student performance;
- do not often match the school curriculum or the curriculum is contrived to match the test;
- often label children inappropriately, limiting their educational opportunities for life; and
- are socially, culturally, and racially biased.

There are reliable methods of assessment which encourage the improvement of student performance as well as address the question of district-wide accountability. The suggestions and resources on the following pages are intended to guide the reader in selecting a comfortable alternative for children, teachers, administrators, and parents.

Principles of Assessment and Evaluation

Assessment and evaluation that support and enhance children's learning and teachers' decision-making are based on a number of important principles.

Effective decision-making is based on systematic opportunities to observe children and their learning in a supportive environment.

To demonstrate what the teacher wishes to assess and evaluate, children must engage in specific tasks and activities where they display the attitudes, skills, and knowledge a teacher wishes to find out about. A child can best do this in an environment that is encouraging and supportive. To make valid judgments about any aspect of a child's development, the teacher, therefore, ensures that assessment elicits from a child whatever it is the teacher wishes to find out about and that this takes place in an appropriate climate.

Assessment and evaluation are based on multiple observations.

In order to make decisions or judgments about any aspect of learning, the teacher observes the representation of that learning a number of times in a number of contexts. On any one single occasion, in any one given situation (e.g., working alone vs. working with a partner), or through any one medium of representation (e.g., writing as opposed to oral presentation), a child's behavior may not be a valid indication of learning. The teacher obtains a more accurate and more complete picture of the child's learning by collecting a multiplicity and diversity of evidence of student accomplishments.

Effective assessment and evaluation are comprehensive.

Assessment and evaluation focus on all the goals of the program, not just those which can be easily and objectively assessed. While it is often difficult to evaluate, for example, the development of attitudes and values (e.g., to work cooperatively with others), or the development of higher order, more complex skills and behaviors (e.g., skill in facilitating group problem-solving), these are nevertheless given appropriate emphasis. It is better to make a tentative, subjective decision about an important goal or stage of development (e.g., ability to select a suitable chapter book), than an absolute, objective judgment about a trivial one (e.g., spelling "calendar" correctly).

The teacher selects assessment and evaluation procedures and instruments in the light of program goals, curricular expectations, learning opportunities, and classroom practices.

The context of the learning situation determines the appropriateness of any particular assessment and evaluation technique or instrument. Assessment and evaluation are integrated with instruction; children have systematic opportunities to develop those learnings which are the focus of assessment and evaluation.

Assessment and evaluation are current and free of cultural, gender, and linguistic bias.

To ensure that evaluation procedures are fair for all children, the teacher chooses procedures and instruments that do not place any child or group of children at a disadvantage. The teacher sensitively and thoughtfully adapts and modifies procedures as required in order to accommodate children's cultural backgrounds, life experiences, and facility with the language of instruction. Similarly, assessment and evaluation allow for equal opportunities for both boys and girls.

"Assessment avoids approaches that place children in artificial situations, impede the usual learning and developmental experiences in the classroom, or divert children from their natural learning processes."

National Association for the Education of Young Children and National Association of Early Childhood Specialists in State Departments of Education, Young Children, March, 1991.

Assessment and evaluation imply that, at some time, decisions will be made and some action will follow.

Assessment and evaluation are purposeful: information is collected, interpreted, and synthesized in order to enhance the teacher's and children's decision-making. Obtaining information about a particular aspect of learning or a particular component of the program implies that, at some time in the future, some course of action will follow. The teacher does not have time to gather information which is not useful in terms of the learning situation. The teacher continually asks, "What will I do when I find out 'x'?"

A classroom assessment and evaluation program is primarily concerned with enabling the learner.

Children can and do improve. An effective assessment and evaluation program focuses on identifying what children can do and documenting evidence that children are developing and improving.

An effective assessment and evaluation program is constructive.

Assessment and evaluation support and enhance learning and development by focusing on what children can do and what they are attempting to do. Assessment and evaluation do not focus on "deficits" or negative aspects.

"Assessment demonstrates children's overall strengths and progress, what children can do, not just their wrong answers or what they cannot do or know."

National Association for the Education of Young Children and National Association of Early Childhood Specialists in State Departments of Education, Young Children, March, 1991.

Assessment and evaluation of learning consider the processes in which children engage as well as the products which result.

The teacher looks beyond a single performance or outcome and asks how and why the child is doing something or behaving in a particular way (e.g., asking about the reasoning the child uses in arriving at a certain conclusion rather than assessing the conclusion). The teacher also encourages children to reflect on their own processes.

Assessment and evaluation support the learner's risk-taking.

Assessment and evaluation look not only at what a child can do, but also at what the child is trying to do, e.g., the development of oral communication is a dynamic process. It requires that the child become aware of particular skills or strategies and seek new ways and opportunities to use these. Through use, the child gains insights, begins to formulate generalizations, and internalizes what he or she has learned. The process is one of experimentation, of repeated trial and error. Obviously, this can only take place in an environment that supports risk-taking, that allows and encourages making mistakes.

Assessment and evaluation encourage the child to have an important role to play in monitoring his or her own learning and development.

Assessment and evaluation are not something that is done to students. The process recognizes learners as active partners in their own learning and in the evaluation of that learning. The teacher helps to make learning activities purposeful by sharing expectations with children and encouraging them to reflect on their growth.

Assessment and evaluation facilitate the transfer of learning.

When children are encouraged to reflect on and evaluate their own learning, they gain understanding of the processes they have used. As they develop this metacognitive awareness, they are able to achieve control of the strategies and skills they have practiced and to deliberately use these in new situations. Similarly, when teachers reflect on and evaluate various aspects of a learning experience, they gain important insights which they can apply to new learning activities.

> *". . . teaching demands a critical look at current methods of evaluation. First, it is impossible to communicate the scope and depth of a student's abilities by means of a numerical grade . . . . Second, a student's self-concept is also shaped by the type of feedback they get and the manner in which it is communicated . . . the more [students] risk personally, the more destructive simplistic evaluation will be."*
>
> *Caine and Caine, Making Connections: Teaching and the Human Brain, 1991.*

Assessment and evaluation are subjective.

All assessment and evaluation procedures involve making judgments. A judgment is subjective, and making judgments is a subjective process. The very process of choosing which assessment tool to use is, in itself, subjective. However, judgments are more reliable when they are based on multiple authentic evidence.

Assessment and evaluation are subject to error.

Teacher observations, teacher ratings, and student self-ratings, including simple checklists, are, at best, indirect measures of reality, approximations of truth. The teacher, therefore, interprets his or her judgments carefully and cautiously; the teacher interprets them in the context of his or her knowledge of the individual child, of the learning situation, and of the process of learning in general.

Assessment and evaluation are an integral part of instructional decision-making. In this process, the teacher is the major instructional decision-maker.

Assessment and evaluation imply that, somewhere along the child's learning path, certain judgments and decisions are made. Values are implicit in this process. Teachers cannot distance themselves from these judgments and decisions, nor should they. No one other than the classroom teacher has the range or depth of information about the child's classroom learning and performance. However, as classroom teachers collaborate with other professionals, they may gain additional information and valuable guidance. The insights acquired through such consultation assist the teacher with instructional decision-making. In the last analysis, the classroom teacher maintains the prime responsibility for assessment and evaluation of the children in the classroom.

A Decision-Making Model for Assessment and Evaluation

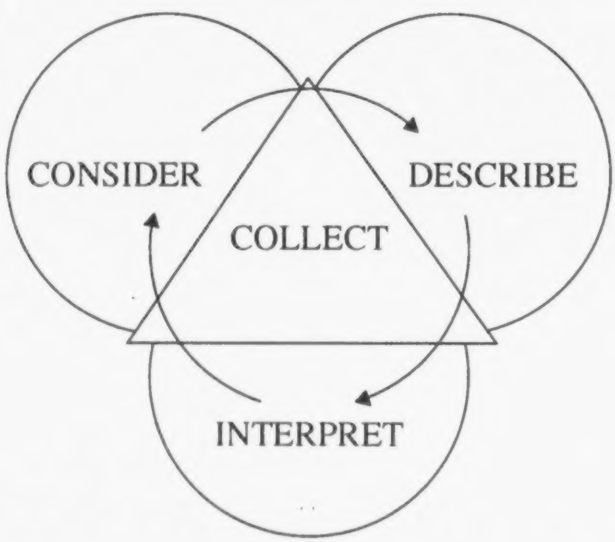
"Too often, students' progress and teachers' performance are measured only by students' performance on standardized exams . . . . This practice can unnecessarily label some students as failures and place undue pressure on teachers to 'teach to the tests' to ensure high scores by their students. In at least some cases, performance-based assessments that call upon students to write, make oral presentations, and work with other students to solve real world problems may provide richer pictures of a student's ability and progress."

National Commission on Children, Beyond Rhetoric: A New American Agenda for Children and Families, 1991.

Assessment is the process of gathering evidence of what a child can do. Evaluation is the process of making decisions about information gained through assessment (see Figure 2).

FIGURE 2

A Decision-Making Model



Assessment and evaluation are enabling when the teacher helps the child to identify what he or she can do and when the teacher collaborates with the child to set future goals in the light of learning needs. Assessment and evaluation provide the information and direction vital to the teaching-learning process. The evaluation cycle (consider, collect, describe, interpret) enables the teacher to report the child's achievements to the child, to parents, and to school personnel.

In the learning environment, the process of assessment and evaluation is embedded in classroom instruction: curriculum, assessment, and evaluation are continuous. The teacher carries out most assessment through naturally occurring classroom events. (If the evidence cannot be collected in a naturalistic setting, the teacher may need to structure situations where specific behaviors may be observed. Such situations still need to reflect appropriate classroom practice.) Evaluation is carried out in a constructive manner so children view it as a learning experience building a foundation for self-evaluation.

> *"Our decisions about learning, teaching, assessment and evaluation must be congruent. We cannot espouse and implement one philosophy of learning and teaching, and evaluate from a totally different perspective."*
>
> *R. Anthony, T. Johnson, N. Mickelson, and A. Preece, Primary Program: Resource Document, British Columbia Ministry of Education, 1989.*

The primary program model of assessment and evaluation is a decision-making model. It is based on knowledge about children and how they learn.

The decision-making model outlines procedures to facilitate ongoing assessment and evaluation. Some factors teachers consider as they use this model are:

- Knowledge about children and how they learn guides all decisions; and
- Decisions occur at all stages of the process:
    - Who and what needs to be considered?
    - What and how do we collect?
    - How can we describe what the child can do?
    - What patterns emerge from interpreting the evidence?
    - Who needs this information?

The assessment process is not a linear one. At any point during the process, the teacher may decide to continue or to go back to a previous stage and refocus or redirect the process. For example, after collecting some evidence, the teacher may use this information to describe what the child can do, or the teacher may decide to re-evaluate the original question and consider a new one.

- Communication with the child occurs throughout the process. Information may also be shared, informally or formally, with parents and school personnel at any time throughout the process.
- Collection of evidence occurs in the context of the learning environment and is related to the curricular expectations and primary program goals.

Consider . . .

Where do we begin?

- Who will be assessed and why?
- Who are all the participants in this assessment, e.g., children, peers, parents, teachers, school personnel?
- What will be assessed, e.g., what curriculum goal area?
- What assessment strategies will be used?
- Where will the assessment take place, e.g., classroom, playground, gym?
- When will the assessment occur, e.g., during center time, in the course of writers' workshop?
- How is the information to be collected? How is it to be recorded? How is it to be stored?

Collect . . .

How can the information be found?

(See *Collecting Assessment Evidence*, page 14.)

- **Observation of process:**

- Is it possible to observe the child interacting with peers, adults, and materials; in a variety of activities and contexts; and in the process of demonstrating what he or she knows?

- **Observation of product:**

- What representations of a child's thinking can be collected, e.g., drawings, paintings, writings, block construction, maps, graphics, charts, webs, projects, computer products, and other samples?

- **Conversations and conferences:**

- What insights can the child contribute into his or her own learning?
- What questions can the teacher ask to probe thinking?

Describe . . .

What is it the child can do?

- On the basis of the evidence collected, what can the child do?

  (Refer to *Goals of the Primary Program*, *Focus Questions*, *Learning Dimensions* and *Descriptions of Learning* in this section.)

- What is the most appropriate method of recording the information, e.g., post-it notes, audio tapes, video tapes, computer software?
- Have the child's past achievements and developmental characteristics been adequately considered?

"Good teachers have always been kidwatchers. The concept of kidwatching is not new. It grows out of the child study movement that reached a peak in the 1930s providing a great deal of knowledge about human growth and development. Teachers can translate child study into its most universal form: learning about children by watching how they learn."

Yetta M. Goodman, Kidwatching: Observing Children in the Classroom, 1985.

Interpret . . .

What information needs to be communicated to the child, parents, and school personnel?

- What is the significant evidence? Does more evidence need to be collected?
- What patterns emerge?
- What does this information tell us about a child's learning?
- What is the most appropriate method of communicating this information, e.g., conversations, conferences, portfolios, reports?
- Does the child need special accommodations and support?

Collecting Assessment Evidence

Children need to represent their thinking and learning in some way before the teacher can find out what they think or know or can do: this is the evidence for their learning. For purposes of assessment and evaluation, the teacher's task is to:

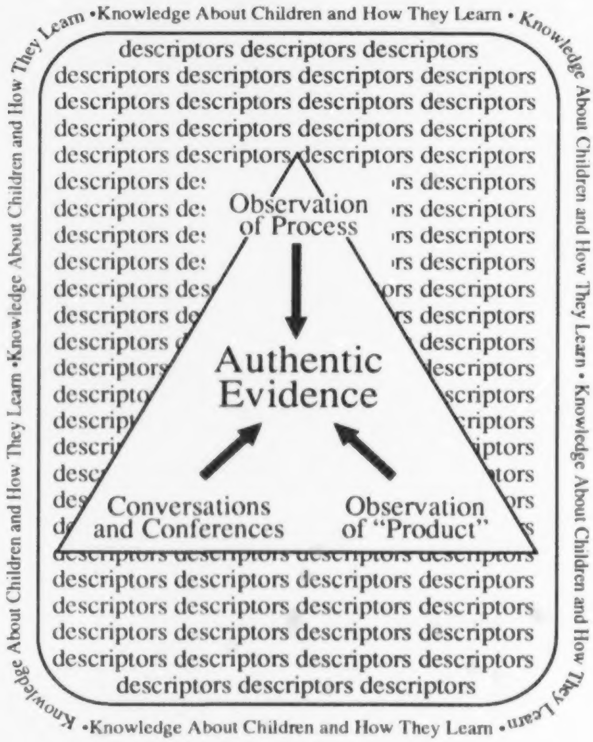
- elicit this evidence from children;
- examine children's representations; and
- collect and document over a period of time.

The teacher does this by observing children, by talking and conferring with them, and by looking at the products children create (see Figure 3).

> *"Performance assessments, paper and pencil tests, and assessments based on personal communication all have a place in an educational system that values widely disparate outcomes. Our challenge is to align our various assessment options with the broad array of achievement targets we value."*
>
> *Stiggins, R. J., "Facing the Challenges of a New Educational Assessment" to be published in Applied Measurement in Education, 1991.*

FIGURE 3

Collecting Authentic Evidence


Knowledge About Children and How They Learn
descriptors
Observation of Process
Authentic Evidence
Conversations and Conferences
Observation of "Product"

If it is to be meaningful and if it is to have worth and significance, the assessment evidence collected from children must be authentic. Authentic evidence is evidence that predominantly:

- is selected in terms of program goals and learning experiences;
- reflects the regular conditions of the classroom;
- documents growth in children's actual "products" rather than on work substitutes in contrived tasks; and
- reflects some kind of real-life purpose, meaning, or validity.

Examples of Authentic and Not Authentic Evidence

AUTHENTIC	NOT AUTHENTIC
• At the end of the term, each child writes a "thank you" letter to a favorite classroom visitor or volunteer.	• Every child writes a "thank you" letter which follows certain rules and submits it into the teacher.
• Over a period of a few weeks, every child has an opportunity to give a brief, informal book talk on a recent favorite book to a small group.	• Each child reads an assigned book and writes a book report.
• In the course of a reading conference, a child selects a favorite passage to read aloud to the teacher from a book she or he is currently reading.	• Each child reads aloud from a reader in a round-robin reading group.

"Hypotheses drawn from any one source represent a partial view, tentative judgments may be confirmed or rejected by synthesizing the web of information considered as a whole. The result is a multidimensional conceptualization of students' literacy learning in a variety of contexts and situations."

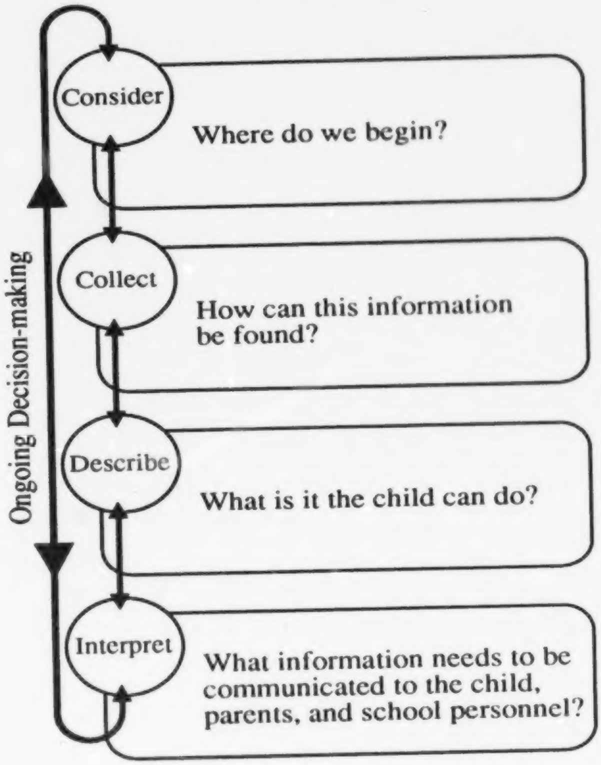
Marilyn L. Chapman, Evaluating Literacy Learning: Action Research for Language Arts Teachers, 1989.

To ensure validity and reliability, the teacher uses a variety of sources to assess children's progress. These, described in the following pages, include:

- observing children involved in the learning process;
- looking at the products children make; and
- engaging children in conversations and conferences.

FIGURE 4

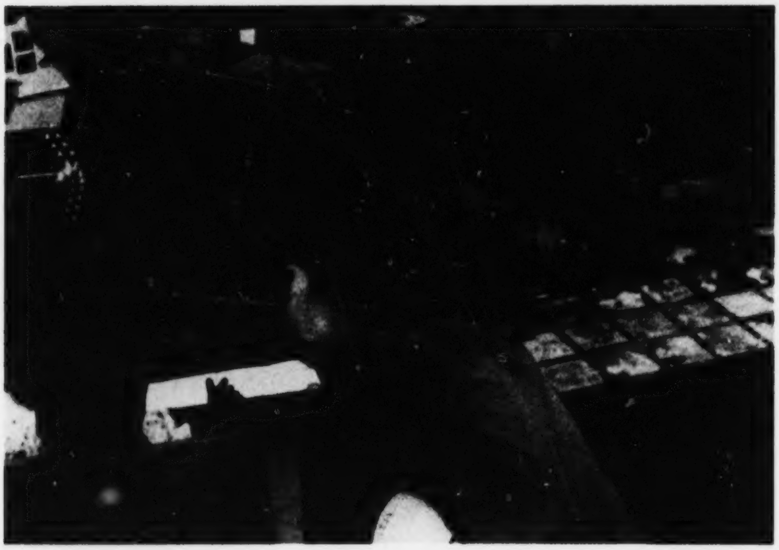
A Decision-Making Process for Assessment


Consider
Where do we begin?
Collect
How can this information be found?
Describe
What is it the child can do?
Interpret
What information needs to be communicated to the child, parents, and school personnel?
Ongoing Decision-making

> *"Do we judge our students to be deficient in writing, speaking, listening, artistic creation, finding and citing evidence, and problem solving? Then let the tests ask them to write, speak, listen, create, do original research, and solve problems."*
>
> *Grant Wiggins, Phi Delta Kappan, May, 1989.*

Understanding the Collection of Authentic Evidence: How We Find Out What a Child Can Do

Teachers collect information about a child's progress in the same way parents collect information about their child's growth and learning. They watch children in action, look at collections of children's work, and talk with children. In the primary program, this is called "collecting authentic evidence."



By collecting and recording this information over time, teachers begin to develop a picture of what each child can do and make decisions that help the child further his or her learning. In order to make these decisions, teachers use criteria developed from research about child development and learning as well as the collective wisdom and the common sense of parents and teachers. In the primary program, these criteria called "widely held expectations" (see the appendix).

However, for some children, even after extensive classroom assessment and evaluation, there still may be unanswered questions. When questions about a child cannot be answered using the strategies and techniques already in place, individual diagnostic assessment may prove useful. This type of assessment is required for only a few children.

The following pages discuss three ways of collecting authentic evidence:

- Observation of process: watching children in action,
- Children's products, and
- Conversations and conferences (talking with children and parents).

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Collecting Authentic Evidence Through Observation of Process: Watching Children in Action

Observation is the most important and comprehensive means of assessing and evaluating all behavior and learning in the classroom. By observing children thoughtfully, sensitively, and systematically within the natural setting of the classroom, the teacher:

- learns about children;
- begins to identify each child's unique interests, personality, learning style, strengths, differences, and learning needs; and
- uses this information to plan programs that best meet the needs of every student in the class.

> *"Kid watchers are teachers who interact with students and who monitor class activities in order to understand more about teaching and learning, mostly learning."*
>
> *Yetta Goodman, "Evaluation of Students," The Whole Language Evaluation Book, 1989.*

Sometimes observation is the only way to assess and evaluate in the classroom. Examples range from children's emotions and feelings, to children's interactions with one another, to a variety of characteristics or traits such as curiosity and creativity. All these and others are understood and appraised only through observation.

It is the classroom teacher who is in the best position to make sensitive, accurate, and comprehensive observations of children. It is the classroom teacher who can best collect evidence of children's learning and growth over time, document it, and interpret it. It is the classroom teacher, ultimately, who best knows the children in his or her class.

Consider this scenario. The children are playing and learning in the classroom. You are totally involved with the children, attending to their needs and what they say and do. In the course of your day with the children, you notice things; you also remember some of them. Much of this process of noticing and remembering may have been unconscious; it just happened naturally. Later, you may even recall a number of things and you may reflect on them. Through your reflection, you make assumptions, you hypothesize and make interpretations about the data you have collected. You have been naturally and unconsciously observing the children and intuitively using your knowledge and understanding about children's development and the curriculum to assess the growth and development of each child. All of this is important and valuable.

Important and valuable though it is, this informal process needs to be complemented by observation that is more conscious, more focused, more articulated; a process of observing, recording, and reflecting that is more thorough and comprehensive.

One of the ways of finding out what children can do and their learning needs is to watch them in action. Teachers watch children throughout the school year. They learn how children make connections between old and new ideas. This helps them to recognize the kind of directions children need as part of their daily routines to further their learning. Teachers record observations of children in action and review them on a regular basis to discover patterns, assess progress, and make plans to help children continue their learning. Teachers also structure specific tasks to develop a base of information about each child and use this to chart progress over time.

Teachers watch children:

- reading
- writing
- computing
- problem-solving
- singing
- working
- graphing
- miming
- constructing
- talking
- making maps
- classifying
- listening
- sorting
- playing music
- signing
- dramatizing
- socializing
- dancing
- playing
- building
- drawing
- painting
- keyboarding

"Observation is the most direct method of becoming familiar with the learning and development of the young child. Since it requires a focus on the child's behaviors, observation allows the teacher to get to know the child as a unique individual rather than as a member of a group."

Sue Wortham, Tests and Measurements in Early Childhood Education, 1990.

Teachers watch children in a variety of settings:

- classrooms
- playground
- field trips
- hallways
- gym
- individually
- in groups (pairs, small and large groups)
- with younger children
- with older children
- with adults

When teachers watch children, they learn about the child's:

- development in the five goal areas of the primary program
- learning styles
- learning needs, abilities, and interests
- problem-solving strategies
- organizational skills
- level of understanding
- prior knowledge
- attitudes
- ability to work as an individual or in a group
- initiative
- desire to learn
- likes and dislikes
- need for assistance

Observation of children:

- is the most significant way in which the teacher learns about children, how they learn, and how they make sense of their world;
- is based on a knowledge and understanding of children and the characteristics of their physical, emotional, social, and intellectual development;
- is an ongoing and natural process that occurs in daily routines.

To ensure that observation strategies are supportive of learning, consider the following:

- Observe and record regularly as part of the classroom routine; make it an integral part of the daily work plan.
- Observe the class in a holistic way to obtain a general sense of what is occurring. There may be children who require your immediate attention. Note what the child was doing that attracted your attention; note also your interaction with the child and the response to that exchange.
- Plan for focused observations of specific children. At that time: clarify to yourself what it is you wish to observe the child doing or what information you need so you can plan appropriately for the child. Choose one or two children to observe each day.
- Explain to the children the purpose of the observation.
- Choose a variety of settings to make the observations (e.g., classroom, library, gym, and playground). Vary the times, so the observation is made in both group and independent work situations and at different times of the day.
- Record the behavior of the child as close to the time of the observation as possible.
- Watch, listen, and record in such a way that it does not interfere with the child's learning.
- Check to ensure recorded observations are being collected on each child in the class.

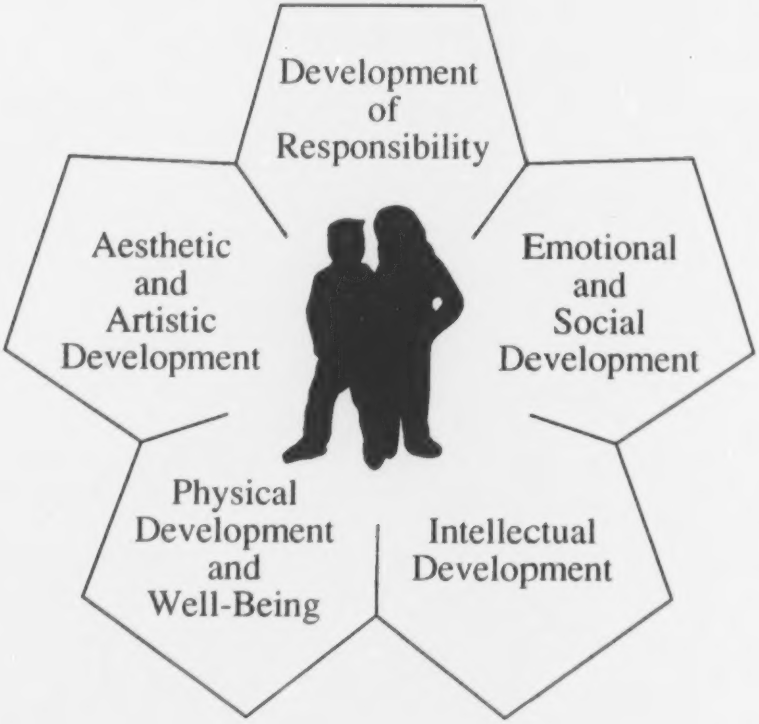
- Note as many observations as you can (in your head is fine, but written ones help tap your memory of the event). When in doubt about your perception of a child's development, make and record more observations or enlist the support of a resource teacher, librarian, or principal.
- Plan individual conferencing time to share observations and listen to children's observations about themselves. This conference should help the child know individual strengths, see where growth has occurred, and where to focus future effort.
- Observe children in a variety of settings: classroom, library, gym, and playground; working with others and working alone;
- The most effective kinds of observations are:
  - systematic,
  - comprehensive,
  - made over a period of time, and
  - reflective of both process and product.

PRACTICAL SUGGESTIONS and examples to help you organize for observing children are offered in the next part of this section. The section sets out to answer three questions:

- *What questions do I ask myself when I observe children?* Sample focus questions are suggested to guide your observation of children in each of the goal areas of the primary program (see Figure 5).
- *When do I observe?* Examples are given of activities and experiences in the course of which you may make observations.
- *How do I observe children?* Sample observational formats are offered for collecting data in the appendix of this section.

FIGURE 5

Goals of the Primary Program


Development of Responsibility
Aesthetic and Artistic Development
Emotional and Social Development
Physical Development and Well-Being
Intellectual Development

"Don't give children analysis paralysis . . . but talk about how they will do it differently next time."

From a workshop by Sylvia Chard and Lilian Katz.

What questions do I ask myself when I observe children?

The following questions are designed to help you focus on the child's development toward the goals of the primary program. The questions will help you assess, evaluate, and report on each child's progress.

Aesthetic and Artistic Development

Does the child:

- demonstrate an interest in and enthusiasm for art, drama, and music?
- demonstrate a willingness to participate in a variety of sensory experiences?
- demonstrate an ability to imagine and visualize?
- use materials appropriately?
- use a variety of materials/media to explore/ learn/represent what is known?
- respond to performances (drama, plays, dance, musical performance, other children's work)?
- demonstrate confidence in and acceptance of his or her own creations?

Emotional and Social Development

Does the child:

- cooperate and collaborate?
- demonstrate play (independent, parallel, cooperative, or organized)?
- express and receive empathy?
- accept responsibility?
- make alternate choices when necessary?
- cope with change?
- choose appropriate peer models?
- consider the feelings of others and interact appropriately?
- deal appropriately with the emotions of others?
- take emotional risks?
- act on impulse?
- cry easily?
- show anger, use physical force, give in?

Intellectual Development

Does the child:

- attend to the task at hand?
- demonstrate curiosity and ask questions?
- apply new information?
- exhibit listening behaviors?
- apply problem-solving strategies (define, gather, analyze, solve)?
- use language to explore, learn, and represent knowledge and understanding?
- use language to communicate effectively?
- involve self in the processes of reading and writing?
- represent knowledge in a variety of ways?
- apply thinking skills, strategies, and processes?
- demonstrate reflective thinking?
- show joy in learning?

Physical Development and Well-Being

Does the child:

- show interest in and participate in physical activity and movement?
- show body and spatial awareness?
- control physical movement (freely, hesitantly, awkwardly, age-appropriately)?
- practice good nutritional habits?
- demonstrate awareness of the importance of physical fitness?
- work cooperatively and collaboratively in a physical activity setting?
- handle toys, tools, implements, and equipment appropriately?
- demonstrate an awareness of the need for safety in a variety of settings?
- show care and respect for own and others' bodies?

Development of Responsibility

Does the child:

- show sensitivity to other living things?
- show a tolerance for differing opinions, feelings, and points of view?
- accept differences in others (appearances, customs, and habits)?
- appreciate cultural differences?
- show pride in own heritage?
- take appropriate action without adult reminders?
- lead, cooperate, and follow as appropriate?
- participate in decisions made by the group?
- assume responsibility when given directions?
- care for classroom equipment?
- show flexibility when dealing with change?
- appreciate and respect the environment?

When do I observe?

Experiences and activities that provide opportunities for the observation of children occur throughout the day. Recording observable behaviors during classroom time is an important part of the teacher's daily routine. In order to get into the habit of observing and recording information, you need to find and create opportunities.

Although suggestions for observation are made here under separate goal areas, they are appropriate across goal areas. (See the appendix in this section for observation forms for each of the goal areas.)

You can use at least three types of observation effectively:

- **Time Sampling:** Describe behavior sequences in detail as they occur within a given period of time. From these observations, you may discover a pattern or frequency of behavior.
- **Event Sampling:** Identify a specific behavior and record the presence or absence of that behavior at predetermined times or time intervals throughout the day.
- **Anecdotal Records:** Record unexpected behavior or incidents. Records are descriptive, objective, and concise, not interpretations.

Aesthetic and Artistic Development

Observations may occur when children are:

- working alone, with a partner, or in a group;
- participating in art, drama, dance, music, or movement;
- using materials;
- choosing their activities;
- responding to others' performances and creations; and
- exploring, learning, or representing what they know.

Emotional and Social Development

Observations may occur when children are:

- working alone, with a partner, or in a group;
- working with other adults or with younger or older children;
- asked to do a specific task involving group cooperation, e.g., lining up;
- on the playground;
- in transition between activities; and
- entering and exiting the classroom, bathroom, or building.

Physical Development and Well-Being

Observations may occur when children are:

- working alone, with a partner or in a group;
- in the gymnasium, out of doors, in classrooms, at the park or on a field trip;
- handling toys, tools, implements, or equipment;
- having snacks, at recess, at lunch, or during free time.

Development of Responsibility

Observations may occur when children are:

- working alone, with a partner, or in a group;
- interacting with others in the classroom or on the playground, with and without supervision;
- responding to differing opinions, feelings, or points of view;
- caring for classroom, school, or own their equipment; and
- responding when others need assistance, help, or comfort.

How do I observe children?

Checklists

Checklists are useful in planning, monitoring, and shaping learning in the classroom. As you review the patterns that emerge from your observations of children in the classroom, you can ensure that there is a balance of learning experiences across all goal areas. Checklists are also useful for gathering information about children's learning. They are used to record student participation in the various activities and to monitor specific learnings.

Make sure your checklists

- focus on children;
- relate to program goals;
- require a simple "yes" or "no" response about specific aspects of learning components of the program;
- focus on only one item or aspect at a time;
- accommodate absolute certainty, not degrees of it;
- are completed as soon as possible; and
- are **not** used as reporting devices.

Rating Scales

Scales are useful for gathering information about children's learning. Scales (see appendix) are created according to predetermined criteria. They recognize that learning develops along a continuum. They are just as subjective as checklists and anecdotal comments.

Scales can be used to record judgments about:

- observable features of a performance;
- outcomes which focus on the approach to learning;
- independence of learning, degrees of support needed;
- critical/evaluative outcomes in terms of independence; and
- effectiveness of instructional activities and practices.

In designing scales for use in the primary classroom, consider the following:

- select items that represent important learning;
- phrase items in specific, concrete, behavioral terms;
- establish clear criteria for each point on the scale;
- use caution in the number of judgments you make;
- focus on the positive aspects of learning;
- provide space for anecdotal comments to round out the judgments you have made; and
- computer software may facilitate use.

In using scales in the classroom, consider the following:

- focus only on behaviors/characteristics being evaluated;
- let children know expected behaviors/characteristics of performance;
- complete the scale during the observation;
- be consistent in your judgments;
- when uncertain, create additional opportunities for observation;
- discuss progress with children to help establish realistic goals;
- rating scales are not appropriate for reporting; and
- rating scales need to focus on individual progress, rather than on comparing children.

Anecdotal Records

Anecdotal records offer potentially the richest descriptions of children's behavior. They are a flexible means of recording many observations over a period of time. They consider the many aspects or dimensions of a child's learning–whether learnings and behaviors are specific and particular or general and global–and are, thus, a comprehensive source of assessment.

In using this method of recording data, you will want to develop techniques that reflect your own organizational needs. Some possible ways to keep anecdotal records include:

- index cards with records stored in a file box;
- cardex files such as nurses use to record patient information;
- pages in a loose leaf binder with pages indexed for each child;
- at-a-glance sheets with one space for each child, using post-it notes; and
- computer software programs.

"Too much evaluation makes children look over their shoulders all the time, like pulling up plants to see how the roots are growing. We want children to live with self-confidence and interest in the world outside themselves."

Lilian Katz, From a workshop by Katz and Sylvia Chard, 1992.

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Collecting Authentic Evidence through Children's Products

What children produce in their learning provides the third major source of evidence on which teachers assess and evaluate learning (see *Assessment and Evaluation*). Each drawing, painting, construction, map, or piece of writing a child creates is a representation of that child's knowledge and understanding of the world. Looking at samples of children's products reveals patterns of growth and change over time. These samples, complemented by the teacher's notes on observations of the processes used and records of conversations and conferences, are effective in demonstrating and guiding student progress.

It is useful to keep an individual portfolio for each child for this purpose. The portfolio is a collection, sampling, and interpretation of a child's products, observations, and other activities. A portfolio of a child's work provides documentation that the child is growing and developing; it provides a broad, comprehensive source of assessment information of what a child can do. A child's portfolio also provides the teacher with a base line from which to plan new learning for that child.

> *"Primary classrooms that routinely provide many opportunities for children to choose, to decide on matters of substance, are places where children have greater opportunities to increase their personal power."*
>
> *Selma Wasserman, Serious Players in the Primary Classroom, 1988.*

Many kinds of data can be included in each child's portfolio. Inviting children to share in deciding what is included in the portfolio is important; it helps children make increasingly critical choices about their work and helps them learn the process of self-evaluation. Examples may include:

- writing folders, e.g., showing development of writing over a period of time;
- audio tapes of conversations, conferences, or oral readings;
- reading logs of stories read and responses to them;
- photographs documenting examples of projects;
- video tapes showing interaction with learning materials and with peers;
- learning logs developing self-evaluations of own learning;
- anecdotal records, e.g., notes about conferences or observed behavior; and
- writing logs and journals.

The collections show a wide range of things children can do such as:

- writing
- reading
- constructing
- painting
- drawing
- graphing
- making maps
- building
- modeling
- calculating
- computer skills
- self-evaluating

The child's portfolio may be more than just a file folder. Consider these possibilities:

- boxes
- scrapbooks
- photo albums
- binders
- videos
- audio tapes
- computer disks

The portfolio is also a rich source for information sharing with parents. At parent conferences, you can invite children to talk about their representations and products, showing what they have learned. A portfolio illustrates specifically, concretely, and graphically all the things a child is doing in school. It provides parents with an overview of the many types of representations of children's learning. It helps parents understand the idea of formative assessment; it reinforces the idea of learning as a collaborative process and it reinforces the notion of continuous learning, as children's development is described and new learnings are related to previous ones.

When parents look at their child's portfolio collection, it is helpful for them to:

- appreciate what their child can do and is attempting to do;
- look for growth over time;
- talk to the child and the teacher about the collection; and
- use the widely held expectations to help understand the child's progress.

Besides looking at what children produce, teachers need to look at the process of how children do things. By watching children as they play and work, teachers learn about how children do things and what their learning needs are. This information is used to make plans to help children continue with their learning.

> *"The [National Panel Resource] group considered several techniques of assessing the performance and achievement of young children and recommended that, by 1995, all schools incorporate observations by teachers and performance portfolios in the assessment and evaluation of young children."*
>
> National Goals Panel Resource (1991). *Interim report: Readiness for School.* Washington, D.C.: National Governor's Association. In SACUS (1991). *The Portfolio and Its Use: Developmentally Appropriate Assessment of Young Children.* Little Rock, Arkansas.

Collecting Authentic Evidence through Conversations and Conferences

. . . with children

Children reveal what they think and know through their talk. Of course, a child's learning will precede his or her ability to talk about it (e.g., a child may know a concept but not be able to explain it or be proficient at doing something but not be able to talk about it).

Never the less, conversation, dialogue, and conferences between teacher and child provide the teacher with a wealth of information about the child and his or her learning. This ongoing dialogue helps the teacher teach by helping the child clarify, extend, and enhance thinking and learning.

Talking and listening to children offer new insights into their learning. The best way to find out about a child's thinking is to ask the child. This talk is essential for parents and teachers as they plan for the individual needs of each child at home and at school.

"Assessment and teaching should go hand-in-hand in the classroom, with each informing the other. Assessment for instruction therefore should be continuous. Furthermore, in order for assessment and teaching to work together, each should resemble the other. To know whether or not a young child learned from a particular classroom activity, teachers use an assessment procedure that resembles or is an integral part of the activity itself."

W. H. Teale,
The Elementary School Journal, 1988.

When talking with and listening to children in school, teachers use the information to:

- help clarify thinking;
- assist children to think about their own learning;
- help achieve new levels of understanding;
- facilitate self-evaluation;
- make children feel their ideas and opinions are valued;
- help children appreciate progress and set future goals;
- build positive teacher-child relationships; and
- lead children to become self-directed learners.

Conversations with children need to be part of everyday activities in the home and classroom. Conversations enhance learning in two ways. They let the listener in on someone else's thinking and provide the opportunity to compare and confirm perceptions. As well, they allow the speaker to refine and clarify thinking by putting thoughts into words.

The social nature of learning is supported as teachers talk with children and plan activities where children talk with one another. Talking about what they have done and are attempting to do is necessary if children are to learn the skills of self-evaluation. The teacher's job is to respond and help others learn to respond constructively so ideas and projects can be shared with the goal of improving learning. It is through this process children learn to value what they do. The affirmation gained through such interaction helps develop the confidence essential for setting personal goals.

Conferences may take a variety of formats. Each has its particular uses and advantages. Examples include individual, paired, and small group conferences with the teacher helping children develop the concepts of cooperative and collaborative planning and learning. Peer conferencing is another useful strategy (e.g., students working together on a writing task promotes collaborative thinking as they discuss and suggest ideas and strategies for the shared composition of a text).

You may find it useful to keep conference logs in which, following a conference, you record highlights, special notes, and reminders for the next conference (see the appendix in this section).

. . . with parents

Talking and listening to parents offers insights into their child's learning. Parents are familiar with their child's interests, dispositions, and special talents. Information may be collected from parents through:

- informal conversations; i.e., at transition times;
- formal conferences (see *Communicating Children's Progress*, page 45);
- interviews and surveys;
- parent observations of their child at home; and
- parent selection of work samples from home which may become part of the child's portfolio.

Parents should be invited to become partners in their child's education. This means that teachers and parents do an equal share of listening and talking. Parents' perceptions of their child are valuable and useful to school personnel in planning the child's learning program. Consider asking parents:

- What are your hopes for your child as he or she begins school?
- Do you have any concerns about your child's development?
- What are your child's interests? How does he or she spend time at home?
- What are your child's special talents?
- What do you enjoy most about your child?
- Are there behaviors which we can work on together? Parents and teachers must agree upon consistent techniques when working on specific behaviors.
- In what ways can school personnel support your family (e.g., introducing new families, providing names for car pools, baby-sitting, contracting appropriate family services organizations)?

Organizing the Assessment Evidence

Assessment and evaluation are ongoing to allow the teacher to make informed decisions about a child's learning needs and to plan appropriate activities. A variety of time management and organizational strategies will facilitate the process. All teachers have their own ways of organizing information collected about students. Records of observations may include anecdotal comments, checklists, and rating scales. When checklists and rating scales are used to record observations for a group of children, the information can be transferred to individual student portfolios. Portfolios may also include recorded information collected after individual, in-depth observations. In addition, portfolios may include notes or records from individual or group conferences as well as audio and video tapes. An interpretation should accompany portfolio collections to aid in communicating information.

The teacher also collects samples of the products children create. These may include children's writing, art work, photographs (e.g., of models or other two- and three-dimensional representations), audio tapes (e.g., of oral presentations or reading), and computer disks. The teacher and child may negotiate on what samples are kept, and they may collaborate on how and where samples will be stored, thus helping the child become a responsible partner in the evaluation process. The teacher has opportunities to observe children through dramatic play and regular activities in the classroom (projects, group work, centers, and other learning activities). As children work and play, the teacher carries out incidental observations and conversations. In addition, the teacher plans for formal, in-depth observations and conferences. Many teachers find formal observations and conferences more manageable when they observe or conference with no more than one or two children per day. The purpose of both informal and planned observation and conferencing is to ensure that all children receive ongoing assessment and feedback.

Technology to Assist with Record-Keeping and Planning

The computer is an effective tool for planning assessment and evaluation and for record-keeping in the primary program. If you use a computer, take care to select flexible and appropriate software.

The ideal software can be used to not only store information but also to call up and review that information on the basis of the goals, focus questions, and learning descriptors of the primary program. This makes it easier for teachers to track progress and to create summaries of learning for individual children as for the whole class. This, in turn, helps teachers to plan and report.

A good software program:

- features easy ways to place and view information from anywhere within the program;
- is able to record both demographic and learning development information for each student;
- is able to record anecdotal information;
- allows students to enter certain types of information on their own;
- automatically dates each entry;
- provides prompts for input about children who have not had comments recorded for a certain time period;
- contains appropriate security features; and
- features easy ways to place and view information from anywhere within the program.

To allow the most effective use of information about children, software should be able to:

- organize information in a variety of ways;
- help with reporting.

Software that can reorganize student information in ways that are meaningful to you will provide a valuable saving of time. Software that stores great quantities of text but does not provide much organization tends to increase teacher time spent reading and rereading to find appropriate information.

Ideally, a system should be able to provide a concise, possibly visual or symbolic representation or summary of the information desired. From the summary, you should be able to refer to a more complete set of information.

As an example, when planning an activity in intellectual development/language arts, you may request a summary for a particular child and find the child is moving from functional toward conventional spelling. You may call up samples of the child's writing, recent anecdotes about the child, exemplars of different types of children's writing, a visually-coded class list indicating which other children are also moving from functional to conventional spelling, a set of learning descriptors that relate to conventional spelling and a list of available learning resources. At reporting time, you may choose to review summaries for each child within the five goals and then call up a more detailed listing of some aspects of that information.

Whether you organize assessment and evaluation information with the use of technology or some other means, you must be comfortable with the method selected.

Summative Evaluation

Encouraging children to represent in a variety of ways facilitates their building on what they can do, and helps them to gain the confidence necessary to acquire new skills and processes.

In the primary program, summative evaluation is intended to describe what the child can do. A wealth of information is collected in the course of the teaching-learning process. From this body of information, the teacher, ideally in collaboration with the child, selects and prepares information to be used as the basis for summative evaluation. Summative evaluation may be used to prepare for reporting and for recording progress in each of the goal and curriculum areas. Summative evaluation is comprised of a range of assessment evidence from a variety of sources including:

- observational records;
- notes on conversations and conferences; and
- samples of products, chosen by the teacher and child in collaboration, that demonstrate what a child can do (e.g., a video recording of a child's oral presentation).

Ways of Viewing Children's Learning

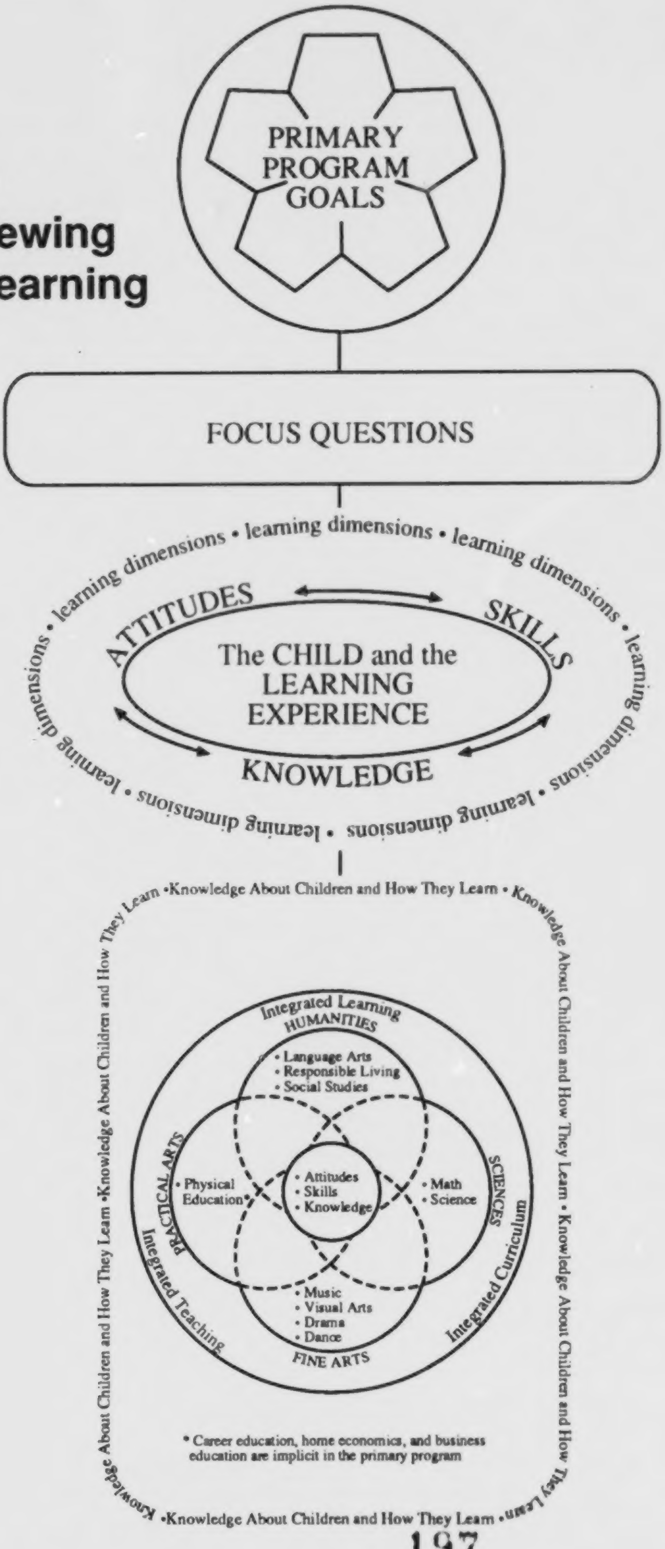
The model, *Ways of Viewing Children's Learning*, (Figure 6) provides a variety of perspectives teachers may use to reflect on and make decisions about children and their learning needs. The model shows the connection between curriculum and assessment. It also shows the interrelatedness of the program goals, focus questions, learning dimensions, and descriptions of children's learning. These ways of looking at children's learning provide a starting point for assessment and evaluation. These ways of viewing children's learning comprise the following:

- The program goals and foundation statements assist teachers to plan experiences that honor and acknowledge the total development of the learner.
- The focus questions identify observable behaviors or outcomes that may indicate the child's development in each of the goal areas. The focus questions help the teacher achieve a global view of the child's progress.
- The descriptions of learning outline the widely held expectations of children's learning in each of the curriculum areas. They allow the teacher to view a child's learning in the context of the curriculum.
- The learning dimensions help the teacher to focus on the wholeness of the child's learning. Examining attitudes, skills, and knowledge provides a broader and more balanced view of the child's learning than the traditional focus on knowledge alone.

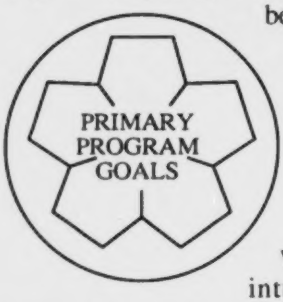
As teachers share the experience of the primary program with their children, they will refine and build on these suggestions. Viewing what children can do in a variety of ways enhances the quality of communication about each child's learning and development.

FIGURE 6

Ways of Viewing Children's Learning


PRIMARY PROGRAM GOALS
FOCUS QUESTIONS
learning dimensions • learning dimensions • learning dimensions • learning dimensions • learning dimensions • learning dimensions • learning dimensions • learning dimensions
ATTITUDES
SKILLS
KNOWLEDGE
The CHILD and the LEARNING EXPERIENCE
•Knowledge About Children and How They Learn •Knowledge About Children and How They Learn •Knowledge About Children and How They Learn •Knowledge About Children and How They Learn •Knowledge About Children and How They Learn •Knowledge About Children and How They Learn
Integrated Learning
HUMANITIES
• Language Arts
• Responsible Living
• Social Studies
PRACTICAL ARTS
• Physical Education*
• Attitudes
• Skills
• Knowledge
SCIENCES
• Math
• Science
• Music
• Visual Arts
• Drama
• Dance
FINE ARTS
Integrated Teaching
Integrated Curriculum
* Career education, home economics, and business education are implicit in the primary program

Program Goals



In the primary program, assessment and evaluation center on the child. In order to gain a balanced picture of the child's learning, all assessment and evaluation begins and ends with the broad perspective offered by the goals and foundation statements of the program. To enhance this holistic view of the child, the teacher may need to examine aspects of the child's learning from other perspectives or at other levels of specificity. The model, *Ways of Viewing Children's Learning,* (Figure 6) provides teachers with some avenues to articulate and substantiate the intuitive understanding developed through daily interaction with the child. Ultimately, it is essential to return to the goals of the program in order to put the assessment and evaluation information acquired into the context of the child's total development.

> *"The Outcomes Driven Developmental Model approach to school reform holds great potential . . . [however] it is not sufficient to achieve the goal of systemic adoption of DAP [Developmentally Appropriate Practice]. As long as change is driven by narrowly defined, easily measurable outcomes, we will continue to see perpetuation of drill and practice, skill-based curriculum."*
>
> *Sue Bredekamp,*
> *Quality Outcomes*
> *Driven Education, 1991.*

Focus Questions

FOCUS QUESTIONS

The focus questions provide a framework which helps teachers link the learning experiences in the classroom to the goals of the primary program. Focus questions may be thought of as a way of identifying "outcomes"* tied to children's learning. They help the teacher examine a child's learning in the context of the goals of the primary program. Reflecting on these focus questions helps the teacher identify observable behaviors (outcomes) to document for each child. The teacher may use the focus questions to link behaviors demonstrated by the child in each goal area to learning activities and experiences. For example, the focus question, "How does the child create in a variety of forms?" may be linked with classroom activities by asking, "In what different forms has the child created?" (Possible ways include writing a story or letter, making a map, composing a song, creating a game, using equipment in the gym, constructing a block model). The focus questions are interdependent and interrelated and may be used in an integrated way.

The focus questions on the following pages are presented under the five program goal areas.

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*For a discussion the ODDM and Developmentally Appropriate Education, see Bredekamp, Sue. (October 1991). *ODDM and Developmentally Appropriate Early Childhood Education: The Problem of the Match,* Quality Outcomes Driven Education, (pp. 45-51).

Aesthetic and Artistic Development

How does the child:

- enjoy the arts and display an increasing sense of aesthetics?
- respond and create in a variety of forms?
- value artistic and aesthetic endeavors?

"A child must know first that they are valued before they are evaluated. Advice or suggestion can be more readily received from people who you know value you."

From a conversation with Sylvia Chard, quoted with permission.

Emotional and Social Development

How does the child:

- accept and respect self and others?
- demonstrate an ability to get along with others?
- make appropriate choices?

"We want to know that the children's mistakes and errors of judgment in the classroom are not serious events. Mistakes can become interesting opportunities for learning."

From a workshop by Lilian Katz and Sylvia Chard, quoted with permission.

Intellectual Development

How does the child:

- demonstrate a curious and inquiring attitude?
- generate and communicate ideas?
- represent thinking in a variety of ways?
- reflect upon and talk about own thinking?
- apply problem-solving strategies (i.e., define a problem and gather information, options, and ideas; organize, analyze, and arrive at a solution)?
- demonstrate the development of attitudes, skills, and knowledge in the curriculum areas?

Physical Development and Well-Being

How does the child:

- respect and care for his or her body?
- demonstrate an increasing repertoire and degree of interest and skill in physical activity?
- show awareness of and practice good nutrition and safety?

Development of Responsibility

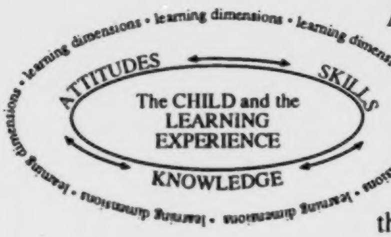
How does the child:

- demonstrate a growing awareness of the importance of the world beyond him or herself and his or her relationship to it?
- relate to others, both to individuals and groups?
- respond to environmental concerns and begin to act upon them?

"Children often respond and do what is asked of them out of respect and the need to please adults. This occurs even when it is a detriment to their well-being."

Steve Wilson, Carolyn Linster, Becky Banks, and Judy Thietje.

Learning Dimensions


learning dimensions • learning dimensions • learning dimensions • learning dimensions • learning dimensions • learning dimensions • learning dimensions
ATTITUDES
SKILLS
KNOWLEDGE
The CHILD and the LEARNING EXPERIENCE

As children are engaged in meaningful experiences that incorporate interaction, discussion, and reflection, they have opportunities to develop a broad spectrum of attitudes, skills, and knowledge that comprise the learning dimensions (see table on facing page). Children are involved in a wide range of activities and experiences so they can develop their thinking, their capabilities, and extend their repertoire of knowing.

The openness of the teacher to new ideas and the modeling of and appreciating other points of view help children to develop their own sense of personal meaning. The teacher's sensitivity in helping children reflect on their thinking encourages them to build open, positive attitudes and helps them be more disposed to accepting, appreciating, and embracing new learning experiences.

Involving children in activities which have value and relevance in the classroom and the world beyond is fundamental to the development of significant learning. Having a purpose for doing an activity provides the motivation which leads the child to persevere with the task. For example, the need to communicate is what motivates the child to reach beyond present abilities and develop an increasing repertoire of capabilities. Encouraging children to represent in a variety of ways facilitates their building on what they can do and helps them to gain the confidence necessary to acquire new skills and processes.

By honoring the child as a learner and collaborating with the child to create a climate of inquiry, teachers help children build on what they know and invite them to seek new knowledge. By negotiating a curriculum based on children's interests, the joy of learning and the wonder of knowledge become the vehicle which carry children beyond knowledge and into the world of understanding.

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Aspects of the Learning Dimensions

Attitudes and Dispositions	Skills and Processes	Knowledge and Understanding
Self-respect	Thinking	Factual, conceptual and procedural knowledge of the natural world.
Self-confidence	Communicating	
Self-motivation	Representing	Factual, conceptual and procedural knowledge of human creative endeavor.
Curiosity	Quantitative reasoning	
Respect for others	Information processing	Factual, conceptual and procedural knowledge of relevant social systems.
Cooperation	Problem-solving	
Responsibility	Decision-making	
Attention to accuracy	Interpersonal development	
Persistence	Life management	

Adapted from *Year 2000: A Framework for Learning* and *Dimensions of Thinking* (ASCD, 1992).

*The **attitudes and dispositions** learning dimension refers to developing attitudes related to:*

- valuing oneself as a person of dignity and ability (i.e., self-respect);
- having confidence in one's ability to cope and succeed (i.e., self-confidence);

- being motivated to work toward personal and shared goals (i.e., self-motivation);
- being motivated to inquire, to ask questions, to seek answers, and to learn (i.e., curiosity);
- valuing the individuality of others and respecting their rights (i.e., respect for others);
- being motivated to work cooperatively with others (i.e., cooperative attitude); and
- being motivated to take responsibility for one's self and for others (i.e., personal and social responsibility).

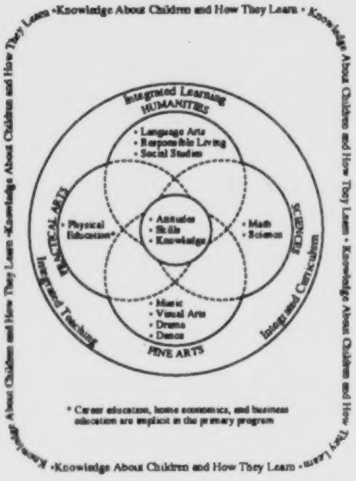
*The **skills and processes** learning dimension refers to developing abilities to:*

- thinking critically, creatively, and reflectively (i.e., thinking skills);
- communicating clearly with others using oral and written language as well as other symbol systems such as mathematics and graphic representations (i.e., communication skills);
- representing knowledge in a variety of forms such as drama, dance, sculpture, and construction (i.e., representing);
- reasoning quantitatively in terms of quantity relationships, probability, proportionality, and scale (i.e., quantitative reasoning skills);
- accessing, evaluating, organizing, and applying information effectively (i.e., information processing skills);

- selecting and using information to develop solutions to problems (i.e., problem-solving skills);
- using appropriate criteria to select from possible alternatives and make decisions (i.e., decision-making skills);
- interacting with others in appropriate ways (i.e., interpersonal skills); and
- functioning productively in the everyday world, including the world of work (e.g., life management skills).

*The **knowledge and understanding** learning dimension refers to developing basic understandings of:*

- the natural world and its operation, and the principles with which we organize our knowledge about it (i.e., knowledge of natural systems);
- the processes and examples of human creative endeavor, such as literature, visual and performing arts, and construction of social and natural science theory (i.e., knowledge of creative processes and products); and
- the diversity and the workings of American social systems (i.e., knowledge of family, neighborhood, and community).


• Knowledge About Children and How They Learn •
Integrated Learning
HUMANITIES
• Language Arts
• Responsible Living
• Social Studies
PRACTICAL ARTS
• Physical Education*
• Attitudes
• Skills
• Knowledge
SCIENCES
• Math
• Science
• Music
• Visual Arts
• Drama
• Dance
FINE ARTS
Integrated Teaching
Integrated Curriculum
* Career education, home economics, and business education are implicit in the primary program

Descriptors

Descriptions of Children's Learning are made up of sets of descriptors which provide the widely held expectations for children's learning in each particular curriculum area (see *Widely Held Expectations* in the appendix).

The descriptors:

- are the link between curriculum and assessment and evaluation;
- outline the continuum of widely held expectations for all children in the context of which an individual child's learning may be viewed;
- provide a developmental view of growth that is cumulative (though not necessarily sequential);
- are set out in terms of observable behaviors and representations of learning;
- reflect the scope of the curriculum within the primary program;
- provide a broad-based continuum of known and observable learnings and behaviors;
- describe attitudes, skills, and knowledge;
- are a valuable planning and reporting resource for the teacher; and
- are a starting point for describing and interpreting authentic evidence rather than a checklist or finite set of learnings.

The information in the child's portfolio can be set out in terms of the focus questions, learning dimensions, and/or descriptors for each goal. A child's developmental level is indicated by the descriptors that describe the majority of the child's attitudes, skills, and knowledge in the curriculum areas. For example, a child may be described as an "early reader" when the descriptors which describe progress are predominantly in the "early" range. Since learning and development occur on many fronts at the same time, a child may well demonstrate behaviors described as emergent and fluent simultaneously. Some teachers have found that computer software programs may be useful for managing or recording information regarding what the child can do in relation to the descriptors.

Using the descriptors as a resource, the teacher may make decisions about which curricular areas the child is enjoying success and which curricular areas the child is exhibiting learning needs. The descriptors help the teacher determine in which curriculum areas the child needs encouragement, clarification, support, and further assessment.

Communicating Children's Progress

One of the fundamental purposes of assessment and evaluation is to provide meaningful information about the child. Parents are traditionally the audience we envision when we talk about communication. The strategies we develop to enhance parent communication can be used or adapted to communicate with:

- children;
- parents;
- counselors;
- community health personnel;
- specialist teachers (e.g., music, library, physical education, Chapter I, teachers of children with hearing or visual impairments);
- para-professionals; and
- district personnel.

The teacher facilitates and enhances communication with parents regarding their child's progress by reporting to them in many different ways. **Just as children are enabled when we honor the ways in which they best learn, so we invite parents to be authentic partners in their child's education when we use a variety of ways to report to them about their child's progress.** Some ways of reporting progress are:

- informal dialogue;
- newsletters, e.g., "This week we studied . . . .";
- telephone calls;
- notes to parents;
- sending home samples of children's work;
- sharing children's self-evaluations;
- home visits by the teacher and classroom visits by the parents;
- conferences;
- report cards; and
- portfolios.

Anecdotal comments provide specific, detailed information on the child's continuing progress and development. Although checklists are useful to teachers as a way of organizing or analyzing information, they are not appropriate as reporting devices. Checklists tend to fragment evaluation and to focus it on isolated (and sometimes less important) bits and pieces of the whole. They fail to indicate the relative importance of each item to the others and to the whole. They tend to draw attention to what the child has not accomplished, rather than reporting and building on what the child can do.

The assessment evidence routinely collected by the teacher, the focus questions, the goals, and the descriptions of children's learning are all resources the teacher uses in preparing to write an anecdotal report or conduct conference. As the purpose of all communication with parents is to be as informative as possible and to enable their child, it is more meaningful to report the child's progress in terms of actual classroom events and occurrences rather than through the language of the learning descriptors and focus questions. Moreover, when the teacher uses authentic examples of the child in the classroom, the teacher demonstrates to the parents that he or she knows their child as well as the curriculum.

In discussions with parents, as well as in writing report card comments, the teacher describes the child's development in relation to the goals of the primary program (aesthetic and artistic, emotional and social, physical, intellectual, and development of responsibility).

Comments provide information about:

- what the child can do;
- the child's interests and attitudes;
- the child's learning needs;
- the teacher's plan to support the child; and
- how parents might assist with their child's learning.

Communication is enabling when it is:

- accurate, specific, and complete;
- non-judgmental;
- free of jargon; and

Children are enabled when teachers and parents work together. It is a shared responsibility to initiate communication with parents. The caring, thoughtful, and sensitive teacher who shows recognition that the parent is the child's first and most important teacher (and has information and insights to enhance the child's learning) is the teacher who invites parents to work in a partnership to enable their child.

"If we teachers want to help children to grow strong in their courage to try, we ought to think seriously of giving error a new role in our classroom practices, learning to value it, encouraging children to use 'trial and error' as a natural model of learning. Trying what is new cannot be accomplished perfectly at the first attempt; and without allowing for, encouraging, and valuing error, we will never have major breakthroughs into new knowledge."

Selma Wasserman, "Learning to Value Error" in Prime Areas: Journal of the British Columbia Primary Teacher's Association, Fall, 1989.

Parents are encouraged and invited to respond to and initiate communication both formally and informally (e.g., by conferencing and making comments on the written response section of the report card). This ongoing communication is an integral part of the reporting structure. Where appropriate, three-way conferencing, which includes the child, the teacher, and the parents, prepares and encourages children to take responsibility in assessing their learning and setting future goals. Such consultation culminates in planning what the teacher will do, what the parent will do, and what the child will do to reinforce, extend, and enrich the child's learning.

The ways of sharing information presented in the previous pages offer a range of alternatives; they may be used as interim reports or serve as on going communication initiatives. Children enjoy sharing information about what they can do. Focusing communication on what the child has done in the classroom lets parents know that the teacher understands and cares about their child's total well-being rather than just the curriculum. Focusing on samples of children's products or recounting actual incidents that occur while at school, facilitates dialogue and encourages an exchange of information.

The samples of communicating children's progress in this section are suggestions. The examples are not meant to be prescriptive or limiting. Rather, they provide starting points or ideas for teachers to use, refine, or adapt. As teachers use opportunities to communicate information about children's progress, they will develop methods that best suit their own style and situation.

Examples of Communicating Children's Progress

Examples in this section include:

- **Anecdotal Report Cards**
  - A Process for Report Writing
    Pre-Writing
    Criteria for Writing an Effective Report
    Writing the Report
    Reflecting on the Written Report
  - Anecdotal Report Card Excerpts
  - Report Card Enclosures
    A Sample Term Outline
    A Sample Curriculum Overview
    A Sample Letter to Parents

- **Conferences**
  - Parent-Teacher Conferences
  - Parent-Child-Teacher Conferences

- **Alternate Reporting Strategies**
  - "Can Do" Photo
  - Children's Products
  - Scrapbook or Journal Viewing
  - Video Viewing
  - Audio Taping
  - Classroom Photo Album
  - Informal Conversation
  - Informal Notes
  - Parent Observation
  - Self-Evaluation
  - Telephone Conversations

Anecdotal Report Cards

One of the reporting methods a teacher may choose is in the form of a written narrative. This section is intended to help the teacher prepare formal written progress reports. A process for report writing includes:

- pre-writing
- writing the report
- reflecting on the written report

Pre-Writing

You will establish the process for preparing reports cards that is most suitable to you. In report writing, you may find it useful to:

- Review the child's collection of products to ensure that current entries and a variety of representations are included.
- Review observation notes to ensure that all goal areas are included.
- Use the descriptions of children's learning as a resource to compare the child's progress to the widely held expectations for all children (see *Appendix A*).
- Talk with the child about her/his learning.
- Set up meeting times, if necessary, with other school and district personnel to discuss relevant issues regarding individual children.
- Set aside time before or after reviewing the evidence to think about what your key impressions are about the child in all goal areas.
- Establish your criteria for writing reports (sample criteria for writing an effective report card follow).

Criteria for Writing an Effective Report Card

Many school personnel have found it useful to develop a list of criteria for writing effective report cards. The discussion and clarification that occurs during this process is as valuable as the product. One sample list of criteria is included here in the hope that all staff will design local criteria for effective report cards.

- State what the child can do e.g., "Darren writes in his journal each day."
- Consider developmental levels. Use descriptors to tell where the child is on the learning continuum rather than compare the child to another child in the class, e.g., "Like many five-year-olds . . . ."
- Be specific, e.g., "The following is a sentence from one of her stories: A SNCKD IN MI URD – "A snake crawled in my yard."
- Tell parents something they don't already know, e.g., "Something that may surprise you about your daughter is . . . ."

- Report on all goals so the parent sees the whole child not just the intellectual side. Integrate comments on several goals rather than isolating each goal.
- Whenever a concern is expressed, focus on three things: what the child can do; the strategies you are using at school with a focus for next term; and suggestions for parents to use at home.
- Use language parents can understand, e.g., "Darren is a beginning reader. This means he . . . ."
- Look for patterns in the evidence collected.
- Use paragraphs to help parents process the information rather than overwhelming them with a full page of print.
- Use present tense whenever possible and show growth from before to now, e.g., "John used to . . . but now he is . . . ."

Writing the Report

Some things to keep in mind while writing a child's report are:

- Use all five goals of the primary program.
- Use examples.
- State what the child can do.
- When referring to goals and descriptors, use actual classroom learning experiences to clarify and illustrate what you mean.
- Write comments that are informative and respectful.
- When indicating learning needs, state what you plan to do to help the child and suggest possibilities for the parent and child.

For an example of a primary progress report, see *Appendix B*.

Reflecting on the Written Report

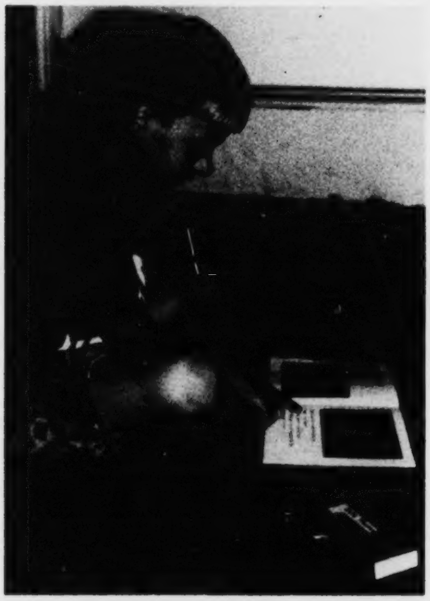
After writing a report, read it over and ask yourself the following questions:

- Does this report enable the learner?
- Is the tone positive?
- Have I really captured the uniqueness of this child?
- Will the parents think that I know their child as well as I know the curriculum?
- Does this report give information about:
  - What the child can do;
  - The child's learning needs; and
  - Future plans to support the child's learning.

Anecdotal Report Card Excerpts

Your report card comments will be shaped by your personal style of writing and the children with whom you work. Each of us creates our own ways of expressing what children can do. An important factor in making the primary program a successful educational experience is our ability to make constructive and informative reports. As teachers, our challenge is to refine our writing and reporting skills to enhance communication.

To illustrate the evolving process of reporting, we have inserted Kenneth Koch's pattern of "I used to, but now I . . ." taken from *Supporting Learning*, British Columbia Ministry of Education (see following page).



Supporting Learning: Assessment/Evaluation/Reporting

In the primary program

We used to . . .	*but . . .*	*So now . . .*	*because . . .*
place more emphasis on what children could not or should not do	we learned this focus undermined the confidence of many children and we could be more supportive of their accomplishments.	we begin with what children can do, then consider their learning needs	this helps them to develop confidence and gives a foundation for building and further refining skills and knowledge.
fail children who did not meet pre-set expectations for behavior or ability to do tasks	we found that some children doubted their ability to learn and this increased the probability of their dropping out of school.	teachers give children the support needed to allow them to make continuous progress	this maintains their self-esteem and confidence, the prompting of further learning strengthening the disposition to learn.
use pencil-and-paper tasks as the main way of assessing and evaluating children	we now know this gave a limited view of what children could do.	we encourage children to represent their learning in a variety of ways (show what they know)	this provides opportunities for more children to demonstrate their intelligence and to be successful learners.
compare learners to each other	this made comparisons more important than the actual learning.	each learner is evaluated on what he or she can do in relation to the widely held expectations and skills are continually refined	this helps each child feel valued as a learner and builds on **individual** strengths, which encourages a good start toward lifelong learning.
use checklists for children's report cards	they gave limited information about what children could do.	we use information from observations, conferences, and collections of children's work to develop anecdotal reports	they give more comprehensive information about what children can do.
use letter grades for reporting children's progress (A, B, C) (G, S, NI)	letter grades were dependent on teacher and parent interpretation and often focused on surface knowledge rather than understanding.	we use anecdotal reports to describe children's learning	they give a more detailed picture of what children can do and identify future learning goals.
exclude children from the assessment and evaluation process	this did not encourage the development of self-evaluation skills.	children are encouraged to take a more active role in assessing and evaluating their own progress and, with the help of the teacher, set future learning goals	as children construct meaning of the world around them, this process encourages self-evaluation, independent learning, and a commitment to further learning.
plan conferences for parents and teachers to exchange information	this often overlooked the people with the most relevant information–the children as developing learners.	teachers are beginning to plan ways to include children in the conference with parents	together they can develop a shared understanding of children's abilities, interests and learning needs, resulting in the setting of realistic learning goals.

Report Card Enclosures

You may find a report card enclosure an effective and useful practice in providing further information for parents. Some examples include:

- term outlines
- curriculum overviews
- the child's self-report
- a letter to parents

Following are samples of a term outline, a curriculum overview, and a letter to parents.

A Sample Term Outline

This overview has been prepared to share with you the concepts and activities covered by the children during the second term. There has been an attempt to integrate all the curriculum areas. This is particularly evident in the "water unit," which was a major theme study.

Water Unit	Concepts, Skills, Activities
(Integrating Language, Arts, Science, Social Studies, Art, P.E.)	Webbing the importance and uses of water; examining water and sewage systems; forms of water; water cycle; weather; examining life in water using microscopes; studying plants and animals in water environments (bogs, ponds, beaches); using periodicals to research an animal in a water environment, water experiments, etc.
Language Arts	Silent reading as well as many integrated reading activities; reading, writing, buddy reading; reading aloud; the writing process (drafting, listening, visual representation), editing, proofreading applied to many forms of written work (journals, poetry, letters, research reports, fantasy stories, dialogue, webs, etc.)
Mathematics	Emphasis on division and multiplication up to using divisors of 5 and products of 60; division with remainders; problem-solving, measurement, addition and subtraction with two regroupings, fractions, and regular drills of basic math facts
Physical Education	Emphasis on developing fitness and endurance; sprinting and long distance; stretching; relays and games
Fine Arts	The development of skills with particular attention to participation and effort

A Sample Curriculum Overview

The following represents curriculum goals of our classroom program in Language Arts. Specific references to concepts and activities covered this term are indicated in italics.

Our program is based on a Whole Language philosophy; this translates into classroom practice by involving children in rich, varied, and integrated experiences in listening, speaking, reading, writing, and thinking. Children who become "readers" and "writers" are the ones who understand reading as a way to make meaning from the printed page and writing as a way to communicate the meaning of what they want to say to others; that is, they quickly come to an understanding of the natural connection between reading and writing.

For this reason, language arts in our classroom is an integrated experience. This means the program reflects the interdependence of reading, writing, listening, speaking, viewing, and visual representation. For example, some specific language projects this term have been *personality webbing* and *buddy research* (including *classifying, interviewing* and *process writing); fantasy story writing (creative thinking skills);* and *reporting on books.*

As children become readers through the process of an integrated language arts program, they must have access to print. They are surrounded by print in books, lists, charts, notes, instructions, and labels. There is rich and varied reading material to support their growing skill and interest in the printed word.

Our reading program is supported by a large collection of high-interest and individual trade books which the children read in their progression toward individual longer books (in the case of students who are fluent readers) from the library. *Children are directed to use the library freely as they need to in their daily work; they also sign out books each week for home reading.*

Children are encouraged to value correct spelling by building their ability to spell through *frequent opportunities to write.* The selection of some writing for publication helps the children to realize the necessity of standard spelling for communication.

There is *much purposeful pupil interaction* in the classroom. Children's language and talk is a major resource; they talk about their experiences, listen to others, and use language for a variety of purposes (such as explaining, describing, hypothesizing, establishing priorities, questioning and answering).

All subjects across the curriculum provide opportunities for these different language purposes.

A *'"Wednesday Literary Afternoon" is* one of the many experiences provided to help children experience, in a meaningful way, listening to one another, speaking, and thinking; this afternoon includes partner reading, story-telling, listening to children's literary classics, and writing a listener/reader response. The *Literary Afternoon* is one experience, among many, designed to help every child feel that he/she is a successful, valued member of the larger group.

A Sample Letter to Parents

November Report

Dear Parent:

Receiving your child's report card must be an exciting time. The comments I have made reflect my impressions of your child during the time we share at school. You spend more time with your child and are able to see him/her on a more individual basis. This gives you insights and impressions that differ from mine. Please share these with me, and we can work together to make this school year a rewarding experience.

When writing reports, I have tried not to use "teacher jargon," but some terms become so frequently used we forget they may not be familiar to everyone. If there are terms or points which need clarification or if you would like a conference to further discuss your child's progress, please let me know.

The summary of this term's learning activities and your child's "self report," which are attached, will provide you with further information on your child's school experiences.

It is important to ensure that children have time to develop. Experience has proven to me that accepting and appreciating what the child can do now is the most effective way to help that child progress. Programs such as our journal writing require patience and support.

Keep reading to your children and encouraging their writing, and enjoy the rewards of your efforts.

Thank you for sending me your children . . . they are a pleasure to be with.

Conferences

Throughout the school year there will be opportunities (or the need will arise) to hold conferences to discuss the child's progress. The purpose of such meetings is to exchange information in order to develop a better understanding of what the child can do, his or her learning needs, and plans for supporting the child.

Conferences have traditionally been held between the teacher and the parent(s); teachers, support staff and/or administrators have been included as necessary. Including the child in conferences helps to focus attention on the child in relation to the goals and the curriculum, rather than allowing curriculum issues to dominate. The following samples may be useful to teachers in planning for parent-teacher and/or parent-child-teacher conferences.

Parent-Teacher Conferences

Parent participation in conferences can be enhanced if the initial communication is carefully planned and carried out. A successful conference includes: building rapport, obtaining information, providing information; and concluding strategies.

- *Building Rapport:*
  - Establish a comfortable relationship;
  - Welcome parents;
  - Try to put everyone at ease;
  - Use reflection statements to encourage honest dialogue, e.g., "You are concerned about . . . ."

- *Obtaining Information:*
  - Ask parents to contribute information;
  - Use open-ended questions, e.g., "Tell me what Carolyn has shared with you about . . . ."
  - Listen, ask for clarification, pose questions;
  - Avoid negative, emotionally laden questions, e.g., "Does he still refuse to get himself ready in the morning?" "How does she respond to being expected to get herself ready for school?"
  - Avoid yes or no answers;
  - Obtain information before providing it;
  - If you take notes, let parents know you are taking notes so that you will be able to follow up on key points; offer them the opportunity to see the notes.

- *Providing Information:*
  - Offer suggestions for assisting the child with his or her learning;
  - Acknowledge parents' concerns and then respond to their statements, e.g., "Let's review what John can do now and use that to help us decide how we can help him take the next step."
  - Reassure parents that help is being provided;
  - Collaborate to decide who will be responsible for what activity, e.g., the teacher will . . . , the child could . . . , the parents may . . . .
- *Concluding Strategies:*
  - Summarize major points;
  - Mention any unresolved issues needing further; action/discussion, e.g., "We seem to agree . . . ."

Parent-Teacher Conferences

Parents are typically eager to gain information regarding their child's performance. Teachers must provide accurate and relevant information in a sensitive manner. The following are some recommendations for informing parents about children's school progress:

- organize information into broad categories;
- begin with positive information;
- be careful not to overwhelm parents with too much detailed information;
- avoid using educational jargon;
- use an anecdote or example to let the parent know that you appreciate and value their child, e.g., "James' ability to link ideas is obvious when he makes comments like, 'The gelatin dissolved just like the sugar in my Dad's coffee' or 'The pictures in this book are like the ones in the fairy tale book we read last week.'"
- cite specific examples about the child to make your point;
- encourage parents to discuss and clarify as needed;
- have available dated examples of the child's products;
- if you don't know the answer to a question, say so; and
- end on a positive note, summarizing the plan agreed on to enable the child.

Parent-Child-Teacher Conferences

You may find it beneficial to include children in the conference. On such occasions it is advantageous to give them the leadership role rather than just observing and reacting to the interactions of the adults. To facilitate successful parent-child-teacher conferences, you and your students may wish to make plans for what needs to be done before the conferences and what types of follow-up activities may occur. The suggestions that follow are possibilities.

Pre-Conference Activities

The Child

- looks through his/her portfolio to see which products he/she wishes to share
- decorates own portfolio
- writes an R.S.V.P. to parents
- prepares a self-report (younger children can use drawing and functional spelling)

The Whole Class

- discuss preparation for parents' visits (e.g., class room changes, bulletin boards)
- discuss conference process
- develop a plan for the conference process (e.g., taking coats, introducing parents)
- role play the conference (rehearse with big buddies)
- may prepare refreshments for parents

The Teacher

- reviews each child's portfolio
- provides time and assistance for children to choose products to share
- schedules appointments with families
- writes a positive note describing one "can do" for the front of each child's portfolio
- prepares a video or slide show about the classroom (for use when parents are waiting)
- reads the teacher report to each child and discusses

During the Conference

The Child

- greets and introduces parents and teacher
- takes parents on tour of classroom
- shows parents portfolio and products
- compares self-report with teacher's report
- discusses and sets learning goals

The Parents

- participate in conference
- acknowledge child's efforts and accomplishments
- provide information

The Teacher

- welcomes parents
- facilitates dialogue by encouraging child to take leadership role
- draws attention to signs of progress over time
- points out the significance of the learning
- facilitates setting of learning goals
- acknowledges education that occurs at home
- invites parent to interact throughout the year

After the Conference

The Child

- fills out a conference evaluation
- writes parents a thank you note for attending conference

Whole Class

- discuss conference process and make suggestions for another time

The Parents

- fill out a conference evaluation
- write a note to their child about the conference

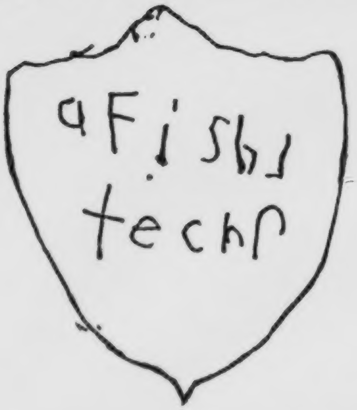
The Teacher

- records pertinent information
- creates a new action plan
- reads parent and child conference evaluations

Alternate Reporting Strategies

"Can Do" Photo

One way to facilitate communication is to send home a photograph of the child. The teacher or child can describe what is significant about the photo. Another possibility is to have children write their own captions and comments. See the appendix for one way to organize an informal "can do" report.



Children's Products

Having children take home examples of their products is an effective way to demonstrate what they can do. When samples of each child's work are sent home from time to time, parents can easily note the progress their child has made since the last examples were sent home.

So that parents understand and appreciate what their child has done, teachers may wish to include information sheets such as the one shown in the appendix.

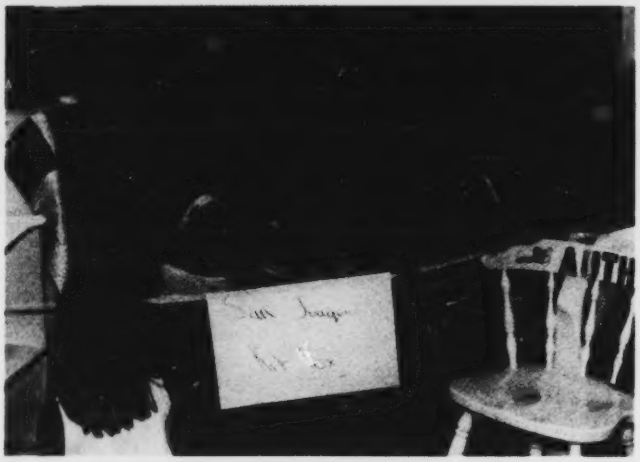
Scrapbook or Journal Viewing

The child and/or teacher may wish to have the child's journal or samples of the child's products go home to parents for a "viewing." On each piece of work, there may be comments from the teacher, the child, or from both as to why the piece was selected and what evidence it provides.

Video Viewing

The teacher may set up a video camera in the classroom (e.g., at shared reading time or centers) and have the students tell or write to their parents what is happening on the tape. The video is sent home for viewing, and parents are asked to respond. Other possibilities for video taping include:

- dramatizations
- science experiments
- field trips
- math manipulatives
- group sharing
- story time
- gym activities



Audio Taping

When children have had the opportunity to practice reading a book passage, the teacher may wish to make an audio tape of the child reading. The teacher may want to include comments regarding the child's reading. Other ways of using audio tape include:

- discussions
- music (singing)
- choral speaking
- oral reports

Classroom Photo Album

Many teachers like to keep a photographic record of classroom events. Such albums show children actively engaged in their learning and ways they represent their thinking. Children enjoy taking the album home and telling their parents about the experiences they share with their classmates. A sheet can be included to invite parents' comments.

Informal Conversation

Informal conversation with parents is part of the school routine. For example, we talk to parents when they bring their children back and forth to school Sometimes these informal interactions are useful for the exchange of information. At other times the teacher may wish to set up a mutually convenient time for more extensive discussion. It is useful to keep a record of such contacts. Each teacher will have a system which works best for him or her. Some useful ways to record these exchanges are:

- post-it notes
- file cards
- day book
- child's file
- teacher's journal

Informal Notes

Sending informal notes home on a regular basis allows parents to share in their child's efforts and successes. As with telephone calls, teachers may wish to have a system to ensure that all children receive notes. Children can create their own forms, borders, and decorations or computer software programs with borders and logos may be used to decorate notes.

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Parent Observation

Inviting parents to visit the classroom allows them to observe their child with others. This helps parents to make more realistic and objective judgments about their child's behavior and development within the classroom. Such observations can form the basis for more meaningful communication through reports or conferences. Samples you may wish to give to parents or use for designing your own observations guides are included in the appendix.

Self-Evaluation

Encouraging children to take an active part in self-evaluation helps them develop a sense of responsibility for their own learning. One way is to have children reflect on their experiences at school and develop their own report cards to supplement the teacher's report card. For sample formats on ways children can report on themselves, see the appendices.

Telephone Conversations

Telephone conversations are useful for communicating with parents when it is difficult to arrange an in-person conference or when something has happened at school that needs to be shared immediately. Many teachers find making a telephone call to communicate positive information soon after the child enters their class or on a regular basis throughout the year is an effective way of establishing rapport with parents. When the teacher has concerns about a child's behavior or learning needs, it is often useful to talk to parents to get their insights before communicating it in writing.

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Appendices

A. Widely Held Expectations 3

B. Assessment and Evaluation Forms......................................22

Widely Held Expectations

What Are Widely Held Expectations?

WIDELY HELD expectations are generalizations about children's development and learning over time. They are frames of reference that help parents and teachers focus on the development of the individual child. These are not expectations for all children but are general statements that show common patterns of development over time. They are based on expert knowledge, current research, observation of children, and the collective wisdom and common sense of parents and teachers.

Infants around the end of their first year are generally able to smile, sit up, eat solid foods, vocalize, understand and perhaps say a few words, and be on the way to taking that first step. Of course, these expectations are only generalizations–true for some infants, not for others.

"When we teach skills to children too early, too formally, and out of context, they will learn them without the desire to ever use them."

Lilian Katz, 1992.

Taken individually, none of these widely held expectations is particularly significant. After all, some infants never crawl before they walk, others don't say a word until one day in their own time and in their own way, they launch their first speech in complete sentences.

Nevertheless, these widely held expectations are useful generalizations, providing telling snapshots or graphic profiles. Taken together, they may say something important, show a pattern, or raise a question about the developing learner.

The widely held expectations in this document are divided between the five goals of the primary program, and in the areas of reading, writing, and mathematics. They have been organized for clarity and easy reference according to a time frame of birth through 13 years. However, when using the widely held expectations, the interest is learner-focused, so we begin where the child is developmentally, no matter what the age.

Widely held expectations . . .

- provide us with the big picture of children's growth and development over time;
- form the basis of the concept of continuous learning;
- help parents and teachers focus on the development of individual children;

- help teachers assess individual learners and plan appropriate learning experiences that ensure continuous progress;
- serve as a reference for parents for reassurance about their child's on-going development;
- can be used for reference by parents in providing developmentally appropriate toys, reading materials, and other opportunities to their children.

As parents and teachers use the widely held expectations, they will begin to develop a picture of a child's progress in relation to the general development of other children of a similar age. When looking at the charts on the following pages, you might want to:

It is important to remember that people have preferences and a person's response to a task can be dependent on previous experiences, health and well-being, abilities, environment, expectations, and circumstances.

- Look at all goal areas to gain a balanced view;
- Look at the age ranges on either side of the child's age to appreciate growth over time;
- Remember each child is an individual and will shine more brightly in some areas;
- Use this resource as a starting point and one way of viewing development over time;
- Consider the experiences that home and school have provided; and
- Be patient–learning is a lifelong process.

Regardless of whether teachers are thinking in terms of programs, learning goals, planned activities, or curriculum areas (subjects), the child must always be the first consideration.

When considering the developing learner, teachers take into account the child's:

- sense of security in social settings;
- family relationships;
- needs;
- previous experiences;
- age;
- health;

- interests;
- feelings;
- learning rates and styles;
- abilities; and
- attitudes, skills, knowledge.

In planning experiences in the primary program, the teacher thinks about:

- how children learn best;
- what learning is appropriate; and
- when it is best learned.

The primary program is organized around the five goals so teachers can plan experiences that meet the needs of the whole child. In school, when curriculum, assessment, and evaluation take these factors into consideration, the program is developmentally appropriate.

For the widely held expectations described on the following pages, the statements and examples of children's development provide only a sample of generally observable behaviors. Parents and teachers will likely think of many other similar examples.

Given that a child has had both home and school opportunities to develop in each goal area, the following widely held expectations may apply to the child's development.

Widely Held Expectations in Aesthetic and Artistic Development

Birth - 3 years	3 - 5 years	5 - 7 years
• may try to grasp writing tools with whole hand. • may draw randomly and look away while drawing or making marks on paper or board. • may begin to make scribbles for pleasure of seeing the results of their actions. • use scribbles, lines, and circles for expression. • may begin to express pleasure or displeasure (laughing, anxiety) when listening to sounds, voices, and music. • may begin to move body to sounds and music. • may make sounds to music without using words ("la, la" or "ba, ba"), may enjoy hearing own sounds. • may enjoy pretend games. • may look at, talk to (babble), grasp, bang, or drop toys.	• may learn to hold writing tools between fingers and thumb. • may make marks, draw, paint, and build spontaneously to express self. • may begin to name a person, place, thing, or an action in a drawing. • gradually try making lines and circles repeatedly and with more control. • may respond to music, art, and nature through body movement that is rhythmic, e.g., rocking, clapping, jumping, or shaking. • use movements that are generally spontaneous, unrehearsed, and inventive. • may be relatively uninhibited about singing and playing musical instruments. • may use both a speaking voice and a singing voice when singing alone, with a tape or with others, and may or may not be able to sing a melody in tune. • often engage in pretend play easily and naturally. • may talk to and play with pretend friends, television characters, stuffed and other toys.	• continue to develop the ability to hold and use large size writing and drawing tools. • may show first attempts at drawing, painting, and building "things." • continue to name what has been drawn, painted, or constructed. • may strive for more detail and realism in artwork. • gradually include more detail and add more body parts when drawing people. • continue to expand and refine responses to a variety of sounds, voices, and music. • may show imaginative and creative ways of moving and dancing. • are increasingly able to initiate and repeat movement patterns (walk like a lion, slither like a snake). • may "act out" stories spontaneously. • often continue to be relatively uninhibited about singing and playing musical instruments. • are developing a singing voice, but the range will differ; may or may not be able to sing a melody in tune. • often continue to show lots of imagination and interest in make-believe. • continue to talk to imaginary friends; may greet an imaginary friend or call someone with a striking sense of reality.

7 - 9 years	9 - 11 years	11 - 13 years
• may continue to develop and refine their ability to use a variety of writing and drawing tools. • may begin to show interest in making their artwork realistic. • increasingly develop forms, such as a human form, and repeat them over and over. • expand and refine responses to and express personal preferences for a variety of sounds, voice, and music. • like to express ideas and feelings through music and movement. • may begin to show more redefined movements as coordination develops. • continue to initiate and repeat movement patterns; may like to move or dance in front of a mirror. • may begin to sing in tune and contribute to musical activities. • may become better at interpreting musical sounds as being low, high, or related to certain instruments. • often continue to show their imagination through make-believe alone or with a variety of props. • may play the part of a parent or significant other (when playing house or school) and may show signs of cooperative play.	• may begin to show interest in developing a skill; may want to know "how" to use a tool to create a special effect. • may want and need to see the object or scene as they are drawing and want to make artwork an exact copy of reality. • may become very self-critical of own work (may want hair to "look like" hair). • continue to expand and refine responses to sounds, voice, and music; are becoming aware of cultural characteristics and of personal preferences of friends. • may become somewhat inhibited in music and movement; may show interest in own musical activities such as lip-synch, band, and mime. • continue to develop their sense of coordination, may continue to increase ability to interpret, produce, and reproduce musical sounds. • continue to engage in make-believe and often have a vivid imagination. • may continue to show an interest in making up and performing their own stories, plays, or dances based on reality. • generally like to play and perform, but may prefer playing in groups rather than alone.	• continue to explore and refine use of various tools to create special effects in artwork. • may begin to show an interest in perspective or drawing according to scale or to create similar effects. • may focus on the whole effect of a picture or on detail work. • may appear to have little confidence and become self-critical of own artwork. • may begin to develop particular choices in sounds, voice, and music. • are developing more control over singing voice and breathing; may interest in joining a group activity such as band, chorus, or musical production, often with friends. • may seem self-conscious at efforts to move or dance and may appear somewhat awkward or uncoordinated because of rapid physical growth. • may continue to interpret and produce musical sounds if encouraged and supported to do so. • may want to play but at times feel this is no longer proper to "grown-up." • may continue to develop imagination and may be less willing to share ideas publicly.

Widely Held Expectations in Emotional and Social Development

Birth - 3 years	3 - 5 years	5 - 7 years
• may demonstrate visible expressions of emotion (temper tantrums).	• may display their emotions easily and appear very sensitive and impulsive (crying fits, "No!").	• may continue to show intense emotions (one moment will say, "I love you" and the next "You are mean.")
• actively show affection for familiar people.	• begin to feel more comfortable when separated from familiar people, places, and things (visiting a neighbor, nursery school, baby-sitter).	• may appear anxious once again when separated from familiar people and places (beginning school, sleep-overs).
• may show anxiety when separated from familiar people and places.	• may play alone or beside others but are becoming more aware of the feelings of others. May be frustrated at attempts to socialize but hold no grudges.	• are learning to cooperate with others for longer periods of time; friendships may change frequently.
• are naturally very curious about other children and may watch and imitate others.	• begin to assert independence by saying "No" or "I can do it myself!" May dump a cupful of water onto the floor while looking directly at you.	• continue to develop feelings of independence by becoming able to do certain things (making a simple breakfast or riding a bicycle).
• generally play alone; may or may not attempt to interact with others.	• see selves as family members and as boy or girl in the family.	• may begin to talk about self and to define self in terms of what they have or own.
• strive toward independence with support and affection (sitting up, crawling, walking, dressing, feeding, toileting).	• see themselves as powerful and creative doers. If the child can't reach something, he or she will get a stool.	• may feel they are being treated unfairly if other get something they do not.
• begin to see themselves as people and appear self-centered.	• may continue to appear possessive.	• begin to see themselves as bad, good, clever, and may seem very hard on themselves.
• begin to see themselves as strong through directing others: "Sit down."	• may feel if something is shared for a brief period, it is gone forever.	• begin to develop the ability to share possessions and take turns.
• may become possessive of belongings (special people, toys, special times).		

7 - 9 years	9 - 11 years	11 - 13 years
• may continue to show bursts of emotion and impatience less frequently. • may show emotions that are both judgmental and critical of themselves and others. • continue to feel some anxiety within the larger community when separated from familiar people, places, things (going to camp, sleep-overs, shopping malls). • are becoming more outgoing. • are developing closer friendships with others; may begin to play mainly with children of the same sex. • show a generally increased sense of self-confidence. • will eagerly take on tasks and activities likely to be successful but usually will not take risks. • may define self as a particular name, age, size, hair color, or other characteristics ("I'm Elizabeth Anne, and I'm seven years old!"). • are sensitive to criticism and display feelings of success or failure depending on how adults respond to them. • continue to develop the ability to share possessions and to take turns if they understand something is not always "lost" by doing so.	• may appear relatively calm and at peace with themselves and occasionally become angry, sad, or depressed, but these moments are usually short-lived. • often hide feelings of anxiety when introduced to new experiences by appearing overconfident. • continue to be very sociable and spend time with parents, friends of the same sex, and often have a "special" friend. • are generally positive about themselves and begin to understand what they are good at doing; may comment easily, "I can do that" or "I can't do that." • often define self by physical characteristics and possessions as well as likes and dislikes. • often vary between the sexes in their view of what is important in dress and physical appearance. • are sensitive to criticism and display feelings of success or failure, depending on how adults and peers respond to them. • continue to develop the ability to work and play with others. • may not want to be disturbed when involved in an activity or game.	• may begin to show intense emotions, bouts of anxiety, moodiness. Emotions may come close to the surface (cry and anger easily). • continue to hide feelings of anxiety with friends and family, often appearing overconfident with a know-it-all attitude. • generally get along well with their friends and continue to show an interest in having a "best" friend; fights and arguments may occur from time to time. • start to question adult authority. • sometimes engage in self put-downs; in conversations with others may say, "I can't do anything right!" • may begin to define self in terms of opinions, beliefs, values, and expand sense of self by attempting to copy the culture of current fads (clothes, music, sports). • gradually gaining independence from parental influence. • are sensitive to criticism and display feelings of success or failure. • may become self-critical. • may appear to become possessive with own belongings, especially with younger brothers and sisters. • may view younger siblings as nuisances when involved with peers and feel discriminated against in family situations.

Widely Held Expectations in Intellectual Development

Birth - 3 years	3 - 5 years	5 - 7 years
• make direct contact with their environment to the best of their ability–doing, seeing, hearing, tasting, touching, and smelling (put objects in mouth). • are beginning to develop an understanding of language and how it works (imitating sounds, saying words, putting words together). • are learning to name objects and may use the same word for two or more objects (all vehicles called "cars"). • express themselves through scribbles, lines, and circles. • "read" pictures for meaning; begin to recognize that writing has meaning (writing is intended for communication). • are likely to think about time in the "here and now." • are increasingly able to identify familiar faces, toys, places, and activities. • are developing personal choice (a favorite blanket or toy). • may be interested in grouping objects (putting all the large animals to bed and leaving the small ones to play).	• continue to explore the world around them by object manipulation and direct experience (playing). • begin to understand cause and effect ("I fell, I cried, I hurt.") • begin to use language to name objects and their own direct experiences of them ("stove–hot"). • name objects and may find two objects are alike in some way (cats and dogs are animals). • are developing a sense of how writing and reading work. • combine drawing and "writing"–drawing conveys most of meaning. • play at reading–"read" pictures (telling story from pictures). • begin to read commercial and traffic signs (STOP). • continue to develop an understanding that writing conveys a message. • may think of tomorrow as "after my sleep" and use words like "tomorrow" and "yesterday" though not always correctly. • may learn nursery rhymes, songs, and addresses, but without really trying to remember. • begin to assert personal choice in decision-making ("No broccoli!"). • are developing an interest in the number of things. • are increasingly interested in counting although the number may not match the number of objects.	• continue to learn from direct experience (playing). • expand and refine knowledge with increasing understanding of cause and effect ("I can go to my friend's house if I call home when I get there.") • continue to expand their understanding and use of language to clarify thinking and learning. • are continuing to develop a sense of how writing and reading work. • combine drawing and writing to convey ideas. • understand that print "tells" the story. • develop a basic vocabulary of personal words. • read slowly and deliberately. • will substitute words that make sense when reading. • developing an understanding of words like "tomorrow;" may still be unsure about length of time ("Is it ready?" or "Are we there yet?"). • may begin to organize information to remember it (own telephone number, sound-symbol relations). • continue to assert personal choice in decision-making (what to wear to school). • begin to understand that the number of objects does not change when grouped in different ways. • are developing the ability to match counting 1, 2, 3 with the number of objects.

7 - 9 years	9 - 11 years	11 - 13 years
• may begin to do multi-step problems using objects to manipulate and count (blocks, fingers, buttons). • continue to deepen understanding of cause and effect ("If I don't go right home after school, my parents will worry.") • continue to expand their understanding and use of language to clarify thinking and learning. • may work with simple metaphors ("My horse runs like the wind.") • begin use writing and reading for specific purposes. • combine drawing and writing; writing can stand alone to convey meaning. • develop a rapidly increasing vocabulary os sight words. • begin to self-correct errors. • increasing vocabulary of sight words. • begin to self-correct errors. • develop the ability to read silently. • increase ability to read aloud fluently with expression. • may be learning to tell time and becoming more adept at understanding the meaning of "before," "soon," "later." • are increasingly able to organize and rehearse information in order to remember, but may still forget. • continue to develop a need for increased ownership in decision-making (games, projects).	• continue to use direct experience, objects, and visual aids to help understanding. • continue to expand and deepen understanding of cause and effect ("I can have a pet, if I take care of it.") • continue to broaden understanding of language and its use to clarify thinking and learning. • may begin to use puns ("A cow is a lawn mooer.") • can expand thinking more readily through writing and reading. • increase reading vocabulary. • continue to self-correct errors. • read silently with increased speed and comprehension. (Silent reading speed greater than oral speed may result in oral reading difficulties). • adjust reading rate to suit purpose (scanning). • expand reading skills to gather information from a variety of sources. • make personal choices in reading for pleasure. • continue to develop understanding of time–year in terms of important events–but may forget dates and responsibilities. • continue to develop the ability to purposefully organize and remember information. • continue to need increased ownership in decision-making (clothing, friends, activities).	• begin to develop ability to "manipulate" thoughts and ideas but still need hands-on experiences. • do some abstract reasoning. • refine understanding of cause and effect ("If I do, I can't go outside.") • continue to broaden knowledge, understanding, and use of language to clarify thinking and learning. • often like jokes and words with double meanings. • continue to expand thinking more readily through writing and reading. • continue to increase silent reading rate and time spent at reading. • continue to increase ability to adjust rate and reading to suit purpose (skim, scan, select, study). • continue to broaden their interests in a variety of fiction and non-fiction. • begin to understand people may interpret same material in different ways. • may be able to talk about recent events, plan for the future and career aspirations. • may begin to develop more complex schemes to aid memory. • need ownership in decision-making with the continued guidance of a responsible person. • develop ideas about real objects and their properties–length, area, mass, capacity, and volume–through direct experiences and by thinking about those experiences.

Widely Held Expectations in Physical Development

Birth - 3 years	3 - 5 years	5 - 7 years
• may experience a period of extremely rapid growth.	• are experiencing a period of rapid growth.	• may or may not experience a slower rate of physical growth. Large muscles (legs and arms) may be more developed than small muscles (hand and feet).
• develop the ability to move about and to manipulate objects to the best of their ability	• have a slower rate of small muscle development (hands) than growth and coordination of large muscles (legs).	• may increase fine motor skills (handling writing tools, using scissors).
• begin to develop vision by following slowly moving objects with their eyes.	• are usually naturally far-sighted.	• usually continue to show far-sightedness.
• begin to develop hand-eye coordination–reaching, grasping, objects, feeding, dressing.	• continue to develop hand-eye coordination and a preference for left or right handedness.	• continue to develop hand-eye coordination. A preference for left or right-handedness may be still developing.
• begin to recognize concepts of place and direction–up, down, in.	• begin to understand and use concepts of place and direction–up, down, under, beside.	• continue to develop an understanding of direction and place although may confuse right and left, up and down when playing games.
• begin to move about–sit, stand, crawl, walk, climb stairs, walk backwards–to the best of their ability.	• are developing the ability to climb, balance, run, gallop, jump, push and pull, and take stairs one at a time.	• continue to develop climbing, balancing, running, galloping, and jumping abilities. May have trouble skipping.
• are beginning to identify their own body parts, often through nursery rhymes and games.	• are beginning to identify body parts and words used in movement–jump, wave, hop.	• are growing in their ability to know what and where their body parts are, and how they can be moved and coordinated.
• are unaware of physical strengths and limitations so may attempt activities that could be difficult or dangerous.	• seem unaware of their own physical strengths and limitations and may try potentially difficult or dangerous activities.	• continue vigorous activity, tiring easily, recovering quickly.
• may often change activities.	• may change activities often, although sometimes concentrate on one thing for a long time if interested.	• tire from sitting rather than running.
• will move about at own pace, always near a trusted adult.	• are beginning to take part in group situations, but still play side-by-side rather than "with" others.	• develop an awareness of safety with guidance.
• are likely to play alone or beside another.		• usually show enthusiasm for most physical activities and are sometimes called noisy or aggressive.
• begin to play games like peek-a-boo and hide-and-seek.		• are developing the ability to take part in small group games, and usually begin to playing groups of children of same sex.

7 - 9 years	9 - 11 years	11 - 13 years
• continue to refine fine motor development and may have slower rate of physical growth.	• may experience a spurt of growth before puberty.	• may experience rapid and uneven growth but this occurs at different rates for individual children. Arms and legs may grow rapidly.
• may experience some visual difficulties (eye testing and corrective lenses).	• may experience some visual difficulties (eye testing and corrective lenses).	• may continue to experience changes to eyesight.
• are continuing to develop hand-eye coordination, and may accomplish more complex tasks.	• are continuing to develop hand-eye coordination, and skill level for physical activities may depend on this increase in coordination.	• continue to develop and refine hand-eye skills and integrate them with whole body efforts in sports and games.
• are developing ability to coordinate left and right sides by showing a preference for batting, kicking or throwing with one side or the other.	• are continuing to develop ability to use either the right side or left side for batting, kicking or throwing.	• continue to refine left/right preference, and may show increasing strength with one hand/arm/foot.
• are gradually increasing in speed and accuracy during running, climbing, throwing, kicking, and catching activities.	• show increased coordination, but growth spurts may begin to interfere.	• may show periods of relatively poor coordination and awkwardness. May show some poor posture because of rapid growth.
• are continuing to understand body parts and uses.	• develop the ability to hit a ball (softball bat, tennis racquet, golf club).	• may continue to develop more sophisticated understanding of body parts and functions and begin to get the idea of a simple body system.
• are beginnings to understand basic ideas of nutrition.	• are developing a more sophisticated understanding of body parts and function as well as basic ideas of nutrition and growth.	• continue to enjoy sports and group games.
• may show more daring, exploring behavior that could lead to accidents.	• are beginning to develop the ability to pace themselves during high energy activities.	• learn more complex body movements.
• show times of high energy; become easily tired.	• understand safety rules but sometimes take risks.	• continue to develop the ability to pace themselves during high energy activities.
• continue to develop awareness of safety with guidance.	• may begin to show a preference for some physical activities over others.	• understand safety rules but sometimes take risks.
• continue to show enthusiasm for most physical activities.	• may appear to enjoy more complex group games and simple sports.	• often vary between the sexes in their interest in physical activities.
• may be interested in playing in groups although the group and the activity probable change often.	• may show a strong sense of loyalty to a group or team.	• continue to play in same-sex groups, often engage in more formal team activities, and continue to show great loyalty to group or team.

Widely Held Expectations in Development of Responsibility

Birth - 3 years	3 - 5 years	5 - 7 years
• appear insensitive to the views of others, yet show interest in them. • are generally self-centered in their views. • look at the world mostly from their own viewpoint (may think the sun sets because they go to bed). • may cry when they see or hear another child crying. • physically explore the environment to the best of their abilities using their senses (seeing, hearing, tasting, smelling, and feeling). • are natural explorers, eager for new experiences. • are beginning to distinguish between familiar and unfamiliar faces. • are becoming aware of their own feelings and respond to others' expressions (become upset if caregiver is also upset). • begin to recognize consequences follow actions.	• are becoming aware of others and beginning to take part in social play groups. • may play "beside" rather than "with" others. • are beginning to see that their views differ from those of others but remain self-centered. • may show aggressive feelings toward others when something does not go their way. • are beginning to sense when another person is sad, angry, happy. • become interested in exploring the environment outside the immediate home. May be interested in growing seeds, weather, seasons, the moon, and sun. • continue to eagerly explore the world around them. • are becoming more aware of family and social relationships. • may sense another person's unhappiness (such as another child crying) and now know how to help. • become aware of consequences of own behavior.	• are developing the ability to take part in social groups, and for longer periods of time, increasing awareness of others. • may prefer to play alone at times or with others. • are developing the ability so see that others have feelings and different views than their own. • may begin to respond to others in times of distress if they are supported and encouraged to do so. • are developing an interest in the community and the world outside their own. • may begin to show an awareness of basic necessities (food, clothing, shelter). • are beginning to develop an interest in specific issues pertaining to their world (recycling). • may begin to notice how people are similar and different from one another. • are developing the ability to respond sympathetically to others if they are hurt, upset or crying. • begin to understand consequences of own and others' behavior.

7 - 9 years	9 - 11 years	11 - 13 years
• are learning to work in groups and are developing the ability to get along with others. • can lead sometimes, and can follow others. • are developing the ability to see how others act and what they expect in certain situations. • may be developing close friendships that are helping them learn to understand how others think and feel. • continue to develop the ability to respond sympathetically to others if they are supported and encouraged to do so. • continue to be curious about the world around them and may show interest in learning about others people (food, clothing, shelter). • are developing an interest in an enthusiasm for specific issues pertaining to their world and can define simple actions to help (returning aluminum cans for recycling). • are developing an appreciation of their own and other cultural heritages through special events, festivals, foods, folk songs, and other concrete experiences. • continue to develop the ability to respond sympathetically to others if this is supported. • continue to understand consequences of own and others' behaviors.	• continue to learn to work in groups if this activity is supported. • may become upset or distressed if they have problems with friends. • begin to understand the idea of the differing contributions of group members to a common goal. • are developing the ability to take a third-person view, in which they see situations, themselves and others as if they were spectators, but still do not coordinate these views. • may be developing the ability to see others have different viewpoints but still do not coordinate these views with their own. • continue to try to develop the ability to respond sympathetically to others but still have difficulty in taking any point of view but their own. • continue to develop an awareness of how own family meets basic needs. • are developing personal views of important issues and values pertaining to their world and act upon their beliefs (making posters). • are continuing to develop an appreciation of their own and other cultural heritages. Can talk about similarities and differences. • continue to develop the ability to respond sympathetically to others and may try to help them. • begin to "weigh" consequences of own actions.	• may show that their relations with friends are increasingly important. • continue to develop the ability to work cooperatively and collaboratively with others. • are developing the ability to understand that there are several sides to an issue but are just beginning to show evidence of being able to take other views into account. Still consider own point of view the right one. • continue to develop the ability to see the worth of others' viewpoints if this is supported. • continue to develop the ability to respond sympathetically to others and may begin to consider other points of view. • continue to develop an awareness of how family needs affect others. • are becoming more committed to their belief and personal views of the world around them (writing letters to newspapers). • may begin to appreciate the rich multicultural heritage of their own country while cherishing family culture in relation to the whole. • may begin developing the ability to empathize with another's feelings in understandable situations. • begin to "test" consequences of own and others' actions.

Widely Held Expectations in Reading Development

3 - 5 year olds	5 - 7 year olds
• are curious about print in own environment—names of letters, signs, labels, and logos. • play at reading: "read pictures" rather than print. • begin with naming and commenting on the pictures, then telling stories from the pictures. • "read" print in own familiar environment (restaurant signs, familiar places, traffic signs). • know that print is a source of information and enjoyment. • begin to develop a "sense of story." • focus on the whole story rather than on individual words. • begin to develop knowledge of some conventions of print, front-to-back directionality of books. • rely on an adult or older child to read text. • like books with illustrations, repetition, and rhyme.	• are curious about print–word forms and spellings. • role play themselves as readers, relying heavily on memory at first. • begin to focus on print, but use pictures to predict and confirm meaning. • attempt to match voice to print. • are increasingly able to recognize environmental print away from its familiar context. • begin to develop a basic vocabulary of functional and personal words recognized on sight. • understand that the print "tells the story." • continue to develop a "sense of story." • are increasingly able to deal with the parts of print (letters and words). • increase awareness of print conventions (top-to-bottom and left-to-right directionality, punctuation). • develop knowledge of common letter-sound relationships. • begin to develop an ability to try reading print, including ways to figure out unknown words (common letter sound associations, picture clues). • choose short books with simple stories and illustrations. • enjoy reading favorite books.

7 - 9 year olds	9 - 11 year olds	11 - 13 year olds
• are interested in print (spellings, word meanings). • show interest in topics, characters, and events. • see themselves as readers. • read for a variety of purposes. • make greater use of context to predict and confirm meaning of words. • begin to self-correct own miscues ("errors"). • are rapidly increasing knowledge of words recognized on sight. • developing ability to read silently. • are increasingly able to read orally with fluency and expression. • are developing knowledge of a variety of forms that communicate ideas (graphs, maps, charts). • have a "sense of story" and can identify the parts. • are increasingly able to focus on details keeping main ideas in mind. • understand the main conventions of print (directionality, punctuation). • develop increasing knowledge of letter-sound relationships and common spelling patterns. • develop increasing independence in reading. • show ability to make inferences (understand intent, draw conclusions). • are beginning to read novels; use books to find information.	• may broaden their interests in fiction and non-fiction. • are increasingly able to set own purposes for reading (read for interest, by topic or favorite author). • self-correct own miscues confidently and independently. • are increasing the length of time concentrating on reading. • are increasing silent reading rate (which may exceed the rate of speech). • are developing an ability to adjust reading rate to suit purpose (scanning to locate information). • begin to try reading material in various forms (graphs, maps). • are aware of different genres of reading materials and can identify some elements (the moral of a fable). • are increasingly able to deal with detail in content and form, while keeping main ideas in mind. • understand the main conventions of print (directionality, capitalization, punctuation) and are developing an increasing knowledge of standard spelling). • are able to read independently. • show increasing ability to make inferences and to read critically. • are able to organize information from reading. • may read longer and more demanding texts.	• continue to broaden their interests in fiction and non-fiction. • read for an increasing variety of purposes and choose from a wide range of reading material. • understand that different readers may interpret the same material in different ways. • increase reading vocabulary, silent reading rate, length of time for concentration, and ability to adjust rate of reading to suit purpose (skim, scan, select, study). • increase ability to read various forms of text (graphs, maps, charts). • increase knowledge of and ability to identify and discuss the elements (characters, plot) of a variety of reading materials. • are able to deal with detail in content and form while keeping main ideas in mind. • understand the main conventions of print (directionality, capitalization, punctuation, and spelling). • are able to read independently. • are increasing in ability to read critically and to detect inconsistencies in argument. • are increasingly able to understand and discuss aspects of literatures such as theme, conflict, and author's style. • are increasing in the ability to persist with longer and more complex texts (more difficult novels, school textbooks).

Widely Held Expectations in Writing Development

3 - 5 year olds	5 - 7 year olds
• view writing as something that people do and like to play at writing; are curious about letters and words. • combine drawing and writing but drawing conveys most of the meaning. • may not intend to convey a particular message and may ask "What does this say?" of own writing. • play at writing and may produce: - scribble writing (imitative cursive writing); - random symbols (strings of forms that resemble letters); - random letters (strings of letters); - single letters that represent a sound (s for "snake") or a syllable (dd for "daddy"). • may produce some conventional words (own name, mom, dad) as well as play writing.	• are interested in the names of letters and how to represent specific speech sounds; write mainly for personal interest. • combine drawing and writing to convey ideas. • demonstrate increasing knowledge of letter names, common letter-sound associations—especially consonants and some forms of writing (labels, stories, letters). • produce increasingly conventional writing by: - writing in capitals and moving toward the use of lower case letters; - spelling with consonants and moving toward phonetic spellings that include vowels; - spelling some common words conventionally; - showing some sense of directionality but may reverse some letters (**b** and **d**) or right to left at times; - starting to use some punctuation marks (periods). • may produce: - writing usually related to their own experiences; - a label or caption to accompany a drawing; - single words or phrases; - short, simple sentences; - a series of simple sentences; - simple stories with one or two characters.

7 - 9 year olds	9 - 11 year olds	11 - 13 year olds
• enjoy writing and sharing own writing with others. • begin to develop a sense of audience. • may combine drawing and writing, but writing can stand along to convey meaning. • demonstrate increasing knowledge of letter-sound relationships, including vowels, common spelling patterns, terms used with writing (letter, word, sentence); and forms of writing (poem, report). • produce increasingly conventional writing by: - spelling an increasing number of words; - using upper and lower case letters and spacing between words; - conventionally using functional spelling when drafting; - understanding directionality (left-to-right, top-to-bottom of a page, front-to-back in a book) but still may reverse letters (**b** and **d**); - developing the ability to punctuate (periods, question marks). • may produce a series of connected ideas that make sense, stories with two or more characters, stories of a full page or more, and reports, letters, poems, and other forms of writing.	• enjoy receiving feedback from others about own writing. • show an increasing awareness of audience. • understand writing as "ideas written down." • can convey more complex ideas through writing. • are able to write for an increasing number of purposes. • demonstrate increasing knowledge of most spelling patterns, terms used with writing (paragraph, punctuation), and a variety of forms of writing (fables, fairy tales). • spell a considerable number of words conventionally. • use functional spelling while drafting, but search for standard spelling before the final draft. • use many punctuation marks conventionally (periods, question marks), but may still confuse others (comas, quotation marks). • may produce stories with two or more characters, topics of ideas supported by relevant details, a series of ideas connected smoothly and logically, a variety of sentence structures and varied sentence length, and more complex reports, letters, poems and so on.	• enjoy playing with words and ideas and can write from different points of view. • value and seek out feedback on own writing and write for a wider audience. • show increasing awareness of differences between speaking and writing. • write for a broad range of purposes and can convey increasingly complex and abstract ideas through writing. • demonstrate increasing knowledge of spelling patterns, terms used with writing, a wider range of forms and parts of speech, but are not yet able to grasp many of the formal aspects of grammar. • produce increasingly conventional writing by using standard spelling and most punctuation marks (but still may confuse marks such as comas and semi-colons). • may produce writing that: - is easily understood, fluent, logically organized, unified, and elaborated; - is more complex in grammatical structure than speech; - contains more complex narratives with complex settings and characters; - has more complex non-narrative forms.

Widely Held Expectations in Mathematics Development

Birth - 3 year olds	3 - 5 year olds	5 - 7 year olds
• begin to recognize "one" and "more than one." • count to nursery rhymes or the alphabet song. • begin to pick out one thing from a group. Sometimes find two or three that are the "same." • begin to identify simple qualities of things like "soft" and "hard" or "hot" and "cold." • begin to get some ideas of how things are alike and how they are different. • may follow the "path" of an object. • may use simple quantity words such as "one more cookie" or "more milk."	• recognize and count up to five. • identify portions when sharing. • recognize and name simple shapes (squares, circles, triangles). • match pictures to actual shapes. • sort using a single attribute. • recognize simple patterns. • learn more qualities of objects ("thick" and "thin"). • line up two or three objects using size or some other category. • use language to begin to get ideas about space and time ("next to," "on top of," "before," "after"). • compare objects. • use measurement words ("big and small," "short and tall," "near and far"). • may recognize that two is always two and three is always three but does not apply this concept beyond five.	• count first by starting back at 1 each time something is added. • begin to pick up counting where they left off, starting with 7 and counting on to 9 and 9. • count all types of things; play with counting forward or backward. • enjoy counting to 10 and idea of big numbers. • use pattern blocks and other materials to make and extend patterns. • match objects in one set to objects in a second set. • sequence things from the biggest to the smallest by size or other variable. • may insert items into a sequence at the appropriate place. • enjoy lining up according to size. • may enjoy card games that help consolidate concepts. • classify objects in a variety of ways. • may isolate a set from a collection. • may realize that a collection can be sorted in more than one way. • begin to develop a stable idea of a straight line. • try measuring all sorts of things but with non-standard units. • begin to recognize that 10 is 10 or 20 is 20, no matter how objects are arranged in a group. • work with simple number facts showing different sums with many types of materials.

7 - 9 year olds

- begin to enjoy counting puzzles and games where they need to find a number between 10 and 99.
- are able to identify sets of objects with 2 or 3 attributes in common (separate triangles by color, size, and thickness).
- may order things in a sequence in one set in relation to a sequence in a second set.
- use rulers and yard sticks to measure length.
- order numbers from 0-10, and then 10-100 and much higher.
- group numbers by twos, threes, fives, tens, and so on.
- begin to classify things in more complex ways and use general categories and subcategories.
- begin to develop the idea of vertical and horizontal lines.
- begin to estimate and measure and to use standard units to communicate similarities and differences.
- begin to develop part and whole relationships and understand subtraction by separating a whole into parts.
- make simple explorations with the concept of place value (combining groups of 100's, 10's, and 1's to make different numbers).
- represent more addition and subtraction "facts" in a variety of ways.

9 - 11 year olds

- begin to understand the number system as a system built on tens particularly when working with base 10 blocks and other activities.
- begin to extend number sequences to take in large numbers from 1,000 to 10,000 and beyond.
- may work on practical problems involving length, capacity, time, and large numbers; explore patterns in number systems; explore size relationships; build models of numbers 100, 1,000, 10,000; and refine abilities to estimate.
- begin to see the need for a special measure.
- continue to work on everyday problems involving length and may extend this to area, perimeter problems, using a variety of units.
- have a better coordination of parts and whole as related to both time and fractional concepts.
- work on many whole number problems.
- begin to coordinate vertical and horizontal lines to help with ideas of area.
- become comfortable using simple graphs to show relationships.

11 - 13 year olds

- begin to explore other ways to build number systems–for example, to think about numbers being represented by 0's and 1's.
- begin to explore three-dimensional objects.
- may be curious about making drawings to scale.
- begin to explore different simple number sequences which requires more than simple addition and subtraction for their extension (2, 4, 8, 16 __; or 1, 3, 6, 10, __).
- begin to experience the ideas of mass and volume.
- begin to use line and pie graphs to represent information and explore relationships.
- begin to explore more complex number relationships and represent ideas in a greater number of ways.
- begin to use standard units for finding mass and volume based on many concrete activities.
- use a variety of measurement tools.
- may begin to see the relationships between fractions and decimals.
- may develop the idea that the whole is equal to the sum of its parts as a basis for the idea of percent (interest rates in savings accounts, cost of sale items (-25%).
- may have some early experiences with the idea of variable.

Aesthetic and Artistic Development

Name ______________________

How do I know that:

- enjoys the arts and displays an increasing sense of aesthetics

How do I see this in:

- Language arts ______________________
- Responsible living ______________________
- Social studies ______________________
- Dance ______________________
- Drama ______________________
- Music ______________________
- Visual art ______________________
- Physical education ______________________
- Mathematics ______________________
- Science ______________________

- creates in a variety of forms

- Language arts ______________________
- Responsible living ______________________
- Social studies ______________________
- Dance ______________________
- Drama ______________________
- Music ______________________
- Visual art ______________________
- Physical education ______________________
- Mathematics ______________________
- Science ______________________

Anecdotal Records

Aesthetic and Artistic Development

Name ____________________

How do I know that:

- values aesthetic and artistic endeavors

How do I see this in:

- Language arts ____________________
- Responsible living ____________________
- Social studies ____________________
- Dance ____________________
- Drama ____________________
- Music ____________________
- Visual art ____________________
- Physical education ____________________
- Mathematics ____________________
- Science ____________________

Emotional and Social Development

Name ____________________

How do I know that:

- accepts and respects self and others

How do I see this in:

- Language arts ____________________
- Responsible living ____________________
- Social studies ____________________
- Dance ____________________
- Drama ____________________
- Music ____________________
- Visual art ____________________

Emotional and Social Development

Name ______________________

How do I know that:	**How do I see this in:**
- demonstrates an ability to get along with others	- Language arts ______________ - Responsible living ______________ - Social studies ______________ - Dance______________ - Drama ______________ - Music ______________ - Visual art ______________ - Physical education ______________ - Mathematics ______________ - Science ______________
- makes appropriate choices	- Language arts ______________ - Responsible living ______________ - Social studies ______________ - Dance______________ - Drama ______________ - Music ______________ - Visual art ______________ - Physical education ______________ - Mathematics ______________ - Science ______________

Intellectual Development

Name ______________________________

How do I know that:

How do I see this in:

- demonstrates an curious and inquiring attitude

- Language arts ______________________
- Responsible living ______________________
- Social studies ______________________
- Dance______________________
- Drama ______________________
- Music ______________________
- Visual art ______________________
- Physical education ______________________
- Mathematics ______________________
- Science ______________________

- generates and communicates ideas

- Language arts ______________________
- Responsible living ______________________
- Social studies ______________________
- Dance______________________
- Drama ______________________
- Music ______________________
- Visual art ______________________
- Physical education ______________________
- Mathematics ______________________
- Science ______________________

Anecdotal Records

Intellectual Development

Name

How do I know that:	**How do I see this in:**
• represents thinking in a variety of ways	• Language arts • Responsible living • Social studies • Dance • Drama • Music • Visual art • Physical education • Mathematics • Science
• reflects upon and talks about own thinking	• Language arts • Responsible living • Social studies • Dance • Drama • Music • Visual art • Physical education • Mathematics • Science

Intellectual Development

Name ______________________________

How do I know that:

- applies problem-solving strategies

How do I see this in:

- Language arts ______________________
- Responsible living ______________________
- Social studies ______________________
- Dance ______________________
- Drama ______________________
- Music ______________________
- Visual art ______________________
- Physical education ______________________
- Mathematics ______________________
- Science ______________________

- demonstrates the development of attitudes, skills, and knowledge in:

- Language arts ______________________
- Responsible living ______________________
- Social studies ______________________
- Dance ______________________
- Drama ______________________
- Music ______________________
- Visual art ______________________
- Physical education ______________________
- Mathematics ______________________
- Science ______________________

Anecdotal Records

Physical Development

Name ______________________________

How do I know that:

- shows awareness and practices safety procedures

How do I see this in:

- Language arts ______________________
- Responsible living ______________________
- Social studies ______________________
- Dance ______________________
- Drama ______________________
- Music ______________________
- Visual art ______________________
- Physical education ______________________
- Mathematics ______________________
- Science ______________________

Development of Responsibility

Name ______________________________

How do I know that:

- demonstrates a growing awareness of the importance of the world beyond him/herself and his/her relationship to it

How do I see this in:

- Language arts ______________________
- Responsible living ______________________
- Social studies ______________________
- Dance ______________________
- Drama ______________________
- Music ______________________
- Visual art ______________________
- Physical education ______________________
- Mathematics ______________________
- Science ______________________

Anecdotal Records

Development of Responsibility

Name ______________________

How do I know that:	**How do I see this in:**
• relates to others, both individuals and groups	• Language arts ____________ • Responsible living ____________ • Social studies ____________ • Dance ____________ • Drama ____________ • Music ____________ • Visual art ____________ • Physical education ____________ • Mathematics ____________ • Science ____________
• responds to environmental concerns and begins to act upon them	• Language arts ____________ • Responsible living ____________ • Social studies ____________ • Dance ____________ • Drama ____________ • Music ____________ • Visual art ____________ • Physical education ____________ • Mathematics ____________ • Science ____________

Anecdotal Records

Recording Observations

Aesthetic and Artistic Development

Name ______________________________

Observation	Sept	Nov	Jan	Mar	June
1. Works with a variety of art materials.					
2. Cooperates and participates in group musical activities.					
3. Sings with others					
4. Partakes in group drama activities.					
5. Responds appropriately to performance/ creations of others.					
6. Uses materials creatively.					
7. Partakes in movement and dance.					
8. Enjoys poetry and literature.					
9. Participates in aesthetic/artistic activities by choice.					
10. Reflects on feelings, ideas, and understandings in fine arts.					

1 = rarely observed   2 = sometimes observed   3 = frequently observed

COMMENTS: ______________________________

____

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____

____

____

Scale

Recording Observations

Emotional and Social Development

Name ______________________________

Observation	Sept	Nov	Jan	Mar	June
1. Shows confidence in self.					
2. Cooperates with others.					
3. Uses problem-solving strategies.					
4. Works independently.					
5. Takes appropriate learning risks.					
6. Works collaboratively.					
7. Expresses emotions in socially acceptable ways.					
8. Adjusts behavior accordingly.					
9. Sees others' points of view.					
10. Values self and others.					

1 = rarely observed *2 = sometimes observed* *3 = frequently observed*

COMMENTS: ____

Observation Scale

Recording Observations
Development of Responsibility

Name ______________________________

Observation	Sept	Nov	Jan	Mar	June
1. Actions demonstrate respect for others.					
2. Actions demonstrate respect for the environment.					
3. Contributes to problem-solving.					
4. Resolves conflict with peers.					
5. Values differences in others.					
6. Gives and receives empathy.					
7. Collaborates with others.					
8. Understands how own behavior affects others.					
9. Cooperates in groups.					
10. Adapts to change.					

1 = rarely observed 2 = sometimes observed 3 = frequently observed

COMMENTS: ______________________________

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Recording Observations

Intellectual Development

Name ______________________________

Observation	Sept	Nov	Jan	Mar	June
1. Is interested in all that is presented.					
2. Applies new information.					
3. Asks appropriate questions.					
4. Uses problem-solving strategies.					
5. Represents thinking in a variety of ways.					
6. Uses language to express own thinking.					
7. Reflects upon and talks about own thinking.					
8. Reading progress within widely held expectations.					
9. Writing progress within widely held expectations.					
10. Math progress within widely held expectations.					

1 = rarely observed   2 = sometimes observed   3 = frequently observed

COMMENTS: ____

Observation Scale

Recording Observations

Physical Development

Name ______________________________

Observation	Date				
1. Participates in physical activities.					
2. Demonstrates appropriate muscle control and coordination.					
3. Handles equipment appropriately.					
4. Respects own and others' bodies.					
5. Practices safety measures.					
6. Makes appropriate food choices.					
7. Maintains physical fitness.					
8. Works cooperatively and collaboratively.					
9. Aware of health and safety measures.					
10. Choices enhance living and learning.					

1 = rarely observed *2 = sometimes observed* *3 = frequently observed*

COMMENTS: ______________________________

My Conference Log

Name ______________________________

Date ______________________________

A conference about

Issues discussed

Follow-up

Reminders

Highlights

My Learning Log

Name ______________________________

Date ______________________________

This week I plan to ______________________________

This week I did ______________________________

This is how I feel ______________________________

I want to ______________________________

My Reading Log

Name ______________________________

Date	Title	Pages Read	Comments/Responses

Reading Log

My Writing Log

Name ______________________________

Date	Title/Story/Topic	First Draft	Revised	Edited	Published or Shared	Teacher's Comments

Self-Evaluation

Name ______________________________

Date ______________________________

1. Today in ____________________ I worked on ____________________

   ____

   ____

2. I learned ____

   ____

3. I felt good when I ____

   ____

   ____

4. I would like some help with ____

   ____

   ____

5. Next time in ____________________ I plan to ____________________

   ____

   ____

   ____

My Self-Report

Name ________________________________

Date ________________________________

My celebrations ________________________________

____

____

____

____

My wish ________________________________

____

____

____

____

Something to talk about:

Child-Teacher Conference Sheet

Child ______________________________

Date ______________________________

Possible questions to address for the child to write on this form or dictate to the teacher

- What do you like about school? Why? ______________________________

  ____

- What do you find the easiest about school? ______________________________

  Why is this easy for you? ______________________________

- What do you find difficult? ______________________________

  Why is this difficult for you? ______________________________

- Who do you like to be with at school? Why? ______________________________

  ____

- Is there anyone who have trouble getting along with? Why? ______________________________

  ____

- What would you like to learn about next? ______________________________

  ____

- What do you think is important to say about you on your report card? ______________________________

  ____

Additional Parent Comments to the Teacher

Date ______________________________

Back cover of report card

Parent's Signature

	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	TOTAL
Days Absent											
Times Late											

Teacher's Signature

Principal's Signature

Primary Progress Report

Student's Name:

Teacher: ______________________________

School: ______________________________

Address: ______________________________

Phone: ______________________________

Please sign and return this report card cover to the school.

Front cover of report card

Purpose of the Primary Progress Report

This *Progress Report* describes your child's development in relation to the goals of the primary program. It is intended to provide you with information about your child's individual accomplishments, interests, abilities, and attitudes.

In these early years, children are at many different stages of development. They learn at different rates and in different ways according to their abilities, interests, and opportunities. We know it is not beneficial to make comparisons between children, so care is taken to evaluate each child in terms of what he or she **can do**.

We encourage you to be an active partner in the education of your child. Please attend conferences and meetings during the school year and communicate with your child's teacher on a regular basis.

Parent Comments to the Teacher

As parents you are invited and encouraged to contribute information to the school about your child in the primary program.

Date: ____________________

Parent's Signature

☐ **Conference requested**

Date: ____________________

Inside cover of report card

Parent's Signature

☐ **Conference requested**

The Primary Program

- Nurtures the continuing growth of children's knowledge and understanding of themselves and their world,
- Provides a safe, warm, caring environment where learning is continuous,
- Recognizes the uniqueness of each child,
- Allows for differences in learning rates, styles, experiences, and interests,
- Encourages children to represent what they know in a variety of ways,
- Supports the social nature of learning,
- Recognizes the essential role of language in facilitating thought, communication, and learning,
- Views assessment and evaluation as important to the on-going process of learning and teaching,
- Reflects an understanding that children learn through active involvement and play,
- Builds on what children "can do,"
- Invites parents to be partners in their children's education, and
- Creates the climate of respect, success, and joy necessary for lifelong learning.

Primary Program Goals

Aesthetic and Artistic Development

Experiences will be provided which enable the child to:

- Develop enthusiasm for the arts,
- Imagine and visualize through the arts,
- Respond through the arts,
- Express and represent through the arts,
- Interpret through the arts,
- Create through the arts,
- Appreciate the arts, and
- Think, learn, and communicate through the arts.

Emotional and Social Development

Experiences will be provided which enable the child to:

- Develop a positive, realistic self-concept,
- Develop independence,
- Set appropriate goals and feel satisfaction in accomplishments and efforts,
- Cope with change,
- Share and cooperate,
- Develop friendships,
- Learn from others, and
- Enjoy living and learning.

Intellectual Development

Experiences will be provided which enable the child to:

- Sustain and extend natural curiosity,
- Develop thinking through meaningful learning experiences,
- Use language to facilitate thinking and learning,
- Use language to communicate effectively,
- Develop and integrate the attitudes, skills, and knowledge of the fine arts, humanities, practical arts, and sciences, and
- Become an independent lifelong learner.

Physical Development

Experiences will be provided which enable the child to:

- Learn and practice safety procedures,
- Take care of and respect their bodies,
- Develop awareness of good nutrition,
- Develop a wide variety of motor skills while maintaining physical fitness,
- Develop an appreciation and enjoyment of human movement, and
- Learn social skills in a physical activity setting.

Development of Responsibility

Experiences will be provided which enable the child to:

- Value and respect individual contributions,
- Value, respect, and appreciate cultural identify and heritage,
- Accept and demonstrate empathy,
- Establish a collaborate environment and acquire cooperative and independent social skills,
- Respect and care for the environment, and
- Adapt to a changing world.

Back of report
card insert

Primary Progress Report

Student's Name ______________________________

School ______________________________

Reporting Period ______________________________

The goals of the primary program are to provide a variety of experiences that foster the child's:

- Aesthetic and Artistic Development
- Physical Development
- Emotional and Social Development
- Development of Responsibility
- Intellectual Development

Front of report card insert

All goals are emphasized throughout the entire primary program.

Report card copies are reduced to accommodate the size of this document.

☐ Continuing in the primary program ☐ Beginning in the intermediate program

______________________________ ______________________________

Teacher's Signature *Principal's Signature*

Parents: Please keep this copy and return the report card cover only. Thank you.

Parent Follow-up to Three-Way Conference

1. Did you feel comfortable having your child involved in the conference? Yes No

2. Were all your concerns addressed? Yes No

3. If an action plan was developed, do you feel it was realistic? Yes No

4. Do you feel the time was well spent? Yes No

5. Did your child enjoy being part of the conference? Yes No

6. Any other comments?

Child's Three-Way Conference Follow-Up

Name: ______________________________ Date: ______________________________

You've just been part of a conference with your teacher and parent(s).
What did you think of it? ______________________________

What advice would you give us to make the conference better next time?

Do: ______________________________

Don't: ______________________________

Photo or Drawing

Here are some special things that ______________________________ can do:

____

____

____

____

Please feel free to contact me if you have anything you want to talk about.

____
Teacher

____
Date

Product Samples

Dear Parent(s):

The following is enclosed for you to look at and discuss with your child. __________

____

____

____

Please notice that ______________________________________

____

____

____________________ is particularly pleased with ________________

____

Your comments are welcome: ______________________________

____

____

____
Parent's signature

____
Teacher's signature

Please be sure to sign this form and return it with the material in the envelope provided.

Personal Notes

Child: ______________________________

Teacher: ______________________________

Date: ______________________________

Example 1:

When Sara was asked, "What can you tell me about school?" she replied . . .

I like doing research about spiders. I wonder what animal I'll research next.

I'm really glad I've started learning how to write. (Handwriting)

Example 2:

When Ryan was asked, "What can you tell me about school?" he replied . . .

I like it!
I like the centers!
I am really good at cleaning up and drawing!

Good News Note

Child's Drawing or Photo

Good News about ______________________________

____

____

____

For example:

______________ tried easel painting for the first time today. Ask him to show you the great garbage truck.

In drama, ______________ took on the role of Mayor of Hamelin. She created a new ending to the traditional story which allowed for the needs of all the characters to be met. Ask her how she solved the problem.

Teacher ______________________

Date ______________________

Informal Notes

Parent's Notes from Classroom Observation

My Notes on My Child

With Others

On His or Her Own

My Child

Using Materials

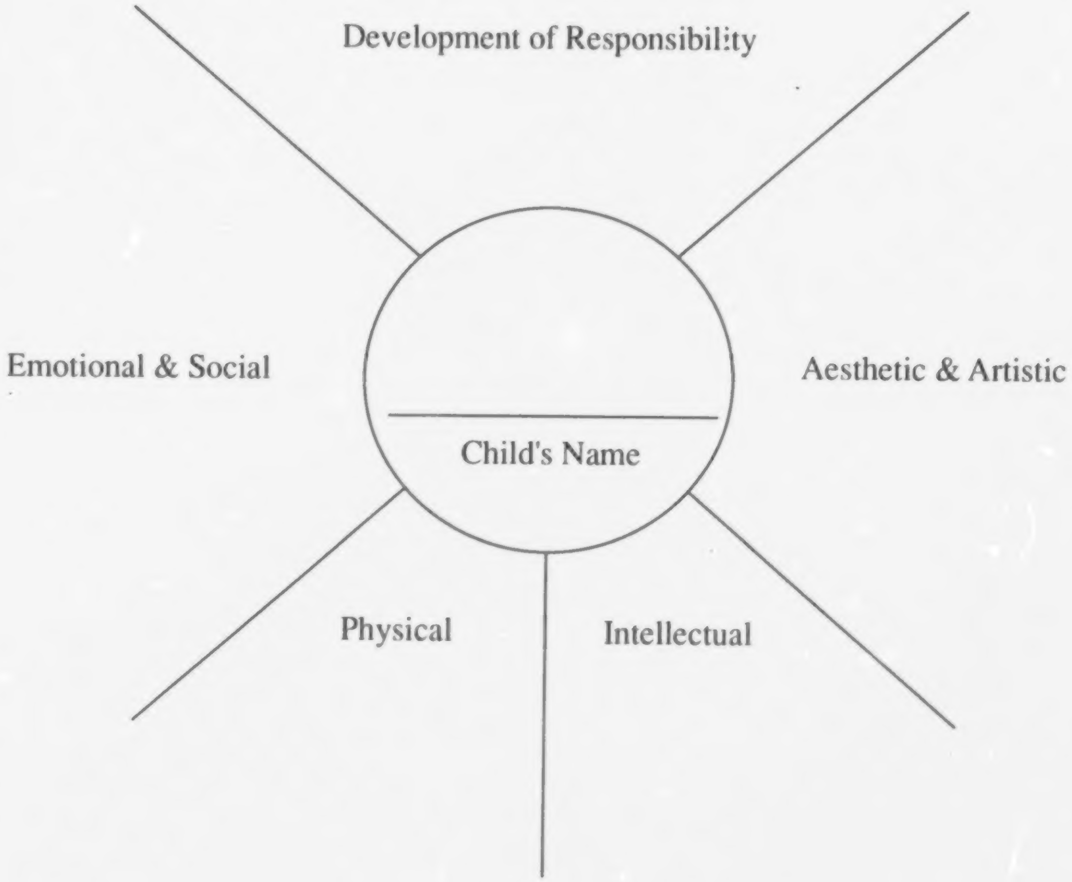
Using Language

Parent's Signature

Date

Parent Observation

Notes on ____________________ in All Goals


Development of Responsibility
Emotional & Social
Aesthetic & Artistic
Child's Name
Physical
Intellectual

Date: ____________________

Parent Observation

Parent Observation Guide

Dear Parent(s):

Welcome to our primary classroom. While you are visiting you might like to observe your child working with me, with other children, and on his or her own. You may wish to look for and make notes on some or all of the following points as you observe your child:

- Which activities did your child choose? ____________________
- Does your child like to work by her/himself? ____________________
- How long does your child stay with a particular activity? ____________________
- Does your child listen to and follow directions? ____________________
- How does your child try to join a group? ____________________
- How does your child share and react with other children? ____________________
- Does your child represent her/his ideas in different ways, e.g., writing, drawing, constructing?

  ____
- Is your child able to organize and care for her/his things? ____________________
- What changes have you noticed in your child since she/he started in our class? ____________________

  ____
- What are some special things about your child you could tell me? (Jot down your thoughts and we can talk later.) ____________________

  ____
- Now that you have observed in our classroom, what comments or questions do you have? (Jot down your thoughts and we can talk about them later.) ____________________

  ____
- What did you learn or confirm about your child after observing today, e.g., I'm not the only persistent one in my family? ____________________

  ____

Parent Observation Guide

What my child can do: ______________

What I noticed about my child as she/he was working: ______________

What I wondered about during my visit: ______________

For example:

Write a list of facts about safety.

He went up and down the rings in the gym.

She concentrated on what she was doing.

She took turns and showed someone else how to reach the rings.

Parent Observation Sheet

When I watched my child in the classroom, I expected to see ____________________

____

____

____

When I watched my child in the classroom, I was surprised to see ____________________

____

____

____

____

When I watched my child in the classroom, I was pleased to see ____________________

____

____

____

______________________________ Child's name

______________________________ Parent's signature

______________________________ Date

Project Self-Report

Project: "Can Do" Reports

My project on ______________________________

shows that I can

Project Cover (replicated by the child or on a copy machine)

Date: ______________________

Name: ______________________

Self-Evaluation

Record of Calls to Parents

Teacher ______________________________

Child's Name	Date	Highlights	Follow-Up

So that all parents receive a phone call about their child, teachers may wish to develop a system to keep track of these contacts. The above form is one possibility.

Interview or Telephone Conversation Record

Student: ______________________ Date: ____________________

Informal Interview ☐ or Telephone Conversation ☐

Summary

Points Presented by Teacher	Comments by Parents
1. ____________	
2. ____________	
3. ____________	

Notes on any future action

1. ____

2. ____

Telephone Conversation

Integrated Curriculum

Introduction 3

Characteristics of an Integrated Curriculum 3

Reflecting Developmentally Appropriate Practices 5

An Integrated Curriculum

> *"When we try to pick out anything by itself, we find it hitched to everything else in the universe."*
>
> *John Muir, 1869*

Introduction

INTEGRATION ACKNOWLEDGES and builds on the relationships which exist among all things. An integrated program is one in which the child experiences learning in a holistic way, without the restrictions imposed by subject area boundaries. An integrated curriculum implies learning that is synthesized across traditional subject areas and learning experiences that are designed to be mutually reinforcing.

In an environment where children are encouraged to explore, ask questions, and seek solutions, integration will occur naturally. For example, when children experiment in mixing primary colors to discover which combinations produce other colors, many possibilities result for learning in science, language arts, and visual art. Similarly, when children choose freely from a variety of materials to construct a musical instrument, learning may occur.

When long-range plans are developed, teachers need to ensure that:

- each of the curriculum areas receives attention; and
- learning experiences are derived from the learning dimensions (attitudes, skills, and knowledge) outlined for each curriculum area as well as from the interests of the children

> *"The key to planning an integrated child-centered curriculum is balance– a balance among large group, small group and individual activities, a balance in curriculum and content areas, and a balance between teacher-directed and child-initiated experiences."*
>
> *Susan Schwartz and Mindy Pollishuke, Creating the Child Centered Classroom.*

Characteristics of an Integrated Curriculum

An integrated program includes:

- experiences to develop attitudes, skills, and knowledge and make connections across the curriculum;
- activities that provide for a range of abilities;
- activities that are both teacher-initiated and directed and child-initiated and directed;

- whole class, small group, and individual experiences;
- opportunities for critical and creative thinking;
- teacher, peer, and self-assessment; and
- opportunities to make connections and experience learning as a meaningful whole.

The curriculum:

- begins from where the child is and builds on the child's interest and natural sense of wonder;
- is worth learning, is comprehensible, and is engaging; is appropriate to the child's particular stage of development;
- engages the child in meaningful activities and experiences which provide a context for the development of thinking processes;
- builds on, extends, and enhances successful experiences;
- invites children to cooperate and collaborate with each other;
- is integrated wherever possible;
- is free of rigid structures such as fixed ability groupings, retention, and promotion that impede continuous learning;
- provides a balance of activities and experiences that reflect the five goal areas;
- develops the attitudes, skills, and knowledge of the fine arts, humanities, practical arts, and sciences;

- allows for the inclusion of locally developed programs; and
- includes a global educational focus in which social, ethical, and environmental issues are presented.

Reflecting Developmentally Appropriate Practices

The curriculum reflects developmentally appropriate practices (Bredekamp, 1991):

- The curriculum is integrated so that learning occurs primarily through activities that reflect current interests of children. For example, a social studies project such as building and operating a store or a science project such as furnishing and caring for an aquarium provide focused opportunities for children to plan, dictate, or write their plans (using developmental and teacher taught spelling), to draw and write about their activity, to discuss what they are doing, to read nonfiction books for needed information, to work cooperatively with other children, to learn facts in a meaningful context, and to enjoy learning. Skills are taught as needed to accomplish projects.
- Teachers use much of their planning time to prepare the environment so children can learn through active involvement with each other, with adults, and older children serving as informal tutors, and with materials. Many learning centers are available for children to choose from. Many centers include opportunities for reading and writing. Examples include a tempting library area for browsing through books, reading silently, or sharing a book with a friend; a listening station; and places to practice writing stories and play math or language games.

  Teachers encourage children to evaluate their work in order to determine where improvement is needed and to assist children in figuring out for themselves how to improve their work. Some work is corrected in small groups where children take turns giving feedback to one another. Errors are viewed as a natural and necessary part of learning. Teachers analyze children's errors and use the information obtained to plan curriculum and instruction.

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"Children who are allowed to make their own choices grow to see themselves as independent persons who can influence the environment in which they live. They learn to see themselves as persons of worth."

Selma Wasserman, Serious Players in the Primary Classroom, 1988.

Curriculum and instruction are responsive to individual differences in ability and interests. Different levels of ability, development, and learning styles are expected, accepted, and used to design curriculum. Children are allowed to move at their own pace in acquiring important skills including those of writing, reading, spelling, math, social studies, science, art, music, health, and physical activity. For example, it is accepted that not every child will learn how to read at age six; most will learn to read by age seven; and some will need intensive exposure to appropriate literacy experiences to learn to read by eight or nine.

- The curriculum is integrated so that children's learning in all traditional subject areas occurs primarily through projects, themes or topics that reflect children's interests and suggestions. Teachers guide children's involvement in projects and enrich the learning experience by extending children's ideas, responding to their questions, engaging them in conversation, and challenging their thinking.

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The following pages organize curriculum into distinct areas for the purposes of presentation only. It is recommended that teachers become secure in their knowledge of the disciplines so integration is a comfortable process. Every day learning occurs in one or more disciplines simultaneously. Therefore, it is essential that teachers work to understand the connections between these major areas:

- **Fine Arts**–music, visual art, drama, and dance.
- **Humanities**–language arts, responsible living, and social studies.
- **Practical Arts**–physical education. (Career education, home economics, and business education are implicit in the primary program.)
- **Sciences**–mathematics and science.

The pages which follow are not a curriculum guide. They are intended to deepen understandings of the child within each discipline. Then, the teacher, who is a curriculum expert, can begin the process of integration for learning. As learning becomes the focus, the disciplines are no longer distinct. This is the goal of curriculum development in the primary program.

Multicultural Curriculum

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B. School-wide Diversity Checklist 18

Multicultural Curriculum in the Primary Program

Common Understandings

MULTICULTURAL EDUCATION RECOGNIZES that all children enrich the culture of the classroom thorough the diversity of their many origins, beliefs, values, and first languages. As such, the primary program affirms the cultural pluralism which is the essence of American society.

Children have stories, songs, dances, art traditions, celebrations, beliefs, and values that are unique to their culture and experience. The teacher makes use of opportunities to integrate this rich cultural diversity into the curriculum and weave it into the fabric of everyday school life to achieve the goals of empathy, respect, and understanding that characterize cultural pluralism. Children and teachers explore ways to find common understandings and similarities among culture and ways to celebrate differences between cultures. In this way, all children are invited into the culture and the curriculum of the school. An education which sustains and teaches to these ideals and values is a multicultural education.

"Multiculturalism is a layered concept that includes not only the experiences of particular individuals and groups but also their shared interests and relationships, which in turn are embedded into the interconnectedness of all peoples of the world."

Sharon Pugh and Jess Garcia, Phi Delta Kappan, November, 1992.

A sound multicultural education model manifests an acceptance of and respect for all cultures in our pluralistic society. It fosters positive self-regard in one's own culture and positive attitudes toward the culture of others. While exploring similarities and differences among cultures, it develops an understanding and appreciation of one's cultural heritage as well as that of other cultures. It fosters the ability to function harmoniously and productively in a multicultural society.

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The principles of multicultural education promote close working relationships among the school, home, and community in order to provide consistent expectations and mutual support. The use of positive role models from the community is an integral and valuable component for promoting multicultural education in the schools. It is important to note the diversity of cultures, ethnic backgrounds, and races of children participating in schools. The growing diversity of our nation's educational community provides educators with an opportunity and challenge to provide the most enabling environment and appropriate educational experiences.

The process of planning and implementing an appropriate educational program must include considerations of the child's identity, learning style, and needs as well as family priorities and concerns. Teachers and support staff will find it challenging to implement assessment procedures and instructional practices that accommodate the diversity of children in their program.

It is the responsibility of the teacher and the educational team supporting the classroom to offer a learning environment that respects and is sensitive to the experiences, values, and attributes of a child representing any cultural, racial, or ethnic group. It is the role of the team to recognize the child's strengths and be aware of any unique needs that may develop.

In some situations, a child may need accommodations in the learning environment and additional support to be successful in school. A student assistance team may be a valuable resource to access information, assess strengths and needs, and design accommodations to assist the child and provide support to the teacher.

The building team may need suggestions and resources that are specific to the child and the unique needs of his or her racial or ethnic group. Resources and contacts available to the school district or family are listed at the end of this section.

Planning for a Multicultural Curriculum

Daily curriculum emerges from three sources:

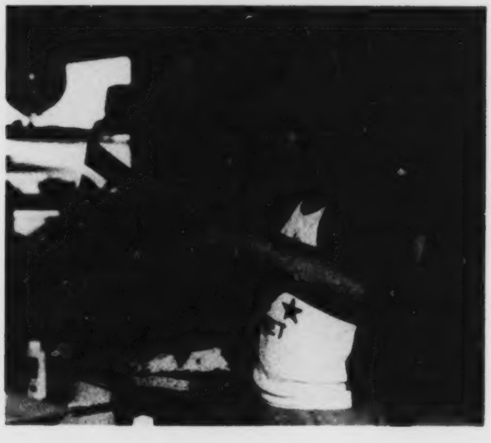
- children's behavior
- teachers' awareness of children's developmental needs and learning styles,
- societal events (Derman-Sparks, L., 1992).

Activities within the curriculum emerge from exploring physical and cultural similarities and differences in the context of the child's family life. These explorations might begin with children's questions and comments as they express curiosity.

"The most common approaches to addressing diversity in early childhood programs have been curriculum grounded in three different philosophical perspectives: European American culture-centered, difference denial (the colorblind approach), and multicultural education. The first approach assumes that one culture is superior to others; the second approach denies the importance of cultural differences; and the third approach frequently deteriorates into 'tourist' curriculum that visits non-European American cultures from time to time. None of these approaches make cultural or other aspects of human diversity a central component of education. In addition, all of these approaches reflect and reinforce societal racist messages. In numerous ways they also do not meet many of the guidelines for appropriate curriculum (NAEYC & NAECS/SDE, 1991)." (Bredekamp & Rosegrant, 1992).

The goals of a multicultural curriculum for young children should foster each child's (see *Goals and Developmental Expectations*, pages 8-11):

- construction of a confident and knowledgeable self-identity;
- critical thinking about bias;
- ability to stand up for one's self and for others in the face of injustice.



For the curriculum to be developmentally appropriate, it must be individually and culturally appropriate to each child. Therefore, the children, their families, society, and teachers provide important sources for an anti-bias, multicultural curriculum (Bredekamp & Rosegrant, 1992). Further, learning about diversity must be integrated into all aspects of the program.

One way to identify possibilities within a particular curriculum topic is to brainstorm multicultural issues that emerge from a traditional topic such as "families" or an ongoing theme such as "our environment." The developmental expectations at the end of this section are a tool for evaluating the age appropriateness of the content. The teacher must also consider whether the content is meaningful to the particular group of children.

Often a one-to-one interaction between children will trigger an opportunity to challenge stereotyping and discriminatory behavior. Skills for challenging unfair behavior, are essential for all children and adults. A multicultural curriculum extends these skills for use in discriminatory situations (Derman-Sparks, 1992).

When planning for a multi-cultural curriculum:

- form a study group; do background reading and discussion;
- involve parents and administrators in planning and developing activities;
- become involved with and supportive of families;
- make extensive use of all cultures throughout the curriculum, including methods of instruction, material, and instructors. Curriculum materials should reflect the cultures of the learners, and should be developed in concert with local communities. Materials and content which reflect all cultures need to be embedded in curriculum and integrated across content areas. Sharing information about traditional values, using local crafts people in the classroom, and inviting the elders to share their stories and personal experiences are appropriate ways of establishing communication and honoring the local communities.
- provide a range of instructional strategies which build on the strengths of the child;
- place a major focus on success for all children; self-esteem is developed when children experience success;
- provide learning experiences for teachers about the cultures of children in their classrooms;
- emphasize the development of good communication skills in an enriched environment through play, story telling, discussion, and role playing;

- begin by talking about differences children notice;
- reflect the cultures of children through the use of photographs, art work, language, and models of the cultures represented;
- evaluate materials for cultural biases in instruction and assessment; and
- take advantage of the richness of having many cultures represented in the classroom.

Besides meeting the educational needs of individual children with unique attributes and backgrounds, educators are also responsible for providing every child with an anti-bias, multicultural education. Children develop biases through messages they hear and see in society. An anti-bias curriculum offers goals to enable every child to construct a confident identity; to develop comfortable, empathetic and just interaction with diversity; and to develop skills for standing up for one's self in the face of injustice (Derman-Sparks, 1989).

Goals & Developmental Expectations of Anti-bias, Multicultural Curriculum for Young Children

GOAL 1: To foster each child's construction of a knowledgeable, confident self-identity.

Includes both personal and group identity, for many children a bicultural identity; fosters confidence, not superiority.

2- & 3-year-olds	4-year-olds	5-year-olds	6-year-olds	7- & 8-year-olds
• are intrigued with their physical characteristics, including gender; anatomy; skin, eye color, hair color and texture; and physical abledness. • see themselves as single, unique individuals; for example, 3's typically consider their name as a part of themselves and are puzzled when another child has the same name as theirs. They also consider skin color, gender, anatomy, and other characteristics as part of their individuality. • begin naming their gender identity but are not yet clear which biological or social attributes determine it. • do not yet have gender or racial constancy; they think their gender identification can change by dress or play preferences and they can change their skin color and eye color.	• continue strong interest in their physical characteristics and what names describe them and begin constructing gender, race, and ethnic identity constancy. • begin to see themselves (including their ethnic group name) as part of their family, while still focused on themselves as individuals and not yet as members of larger groups. • are rapidly absorbing the rules of behavior and the language of their home culture, not from formal lessons but from their daily life experiences. In general, their "egocentrism" includes thinking their family's way of life is how everyone else lives. • are vulnerable to the influence of societal norms and socially prevailing biases. Questions related to identity may reflect not only confusion about identity constancy but also awareness of negative societal messages about themselves.	• have established a rudimentary sense of gender and race identity that includes constancy. • have a heightened interest in the meaning of each component of identity in relation to other children's ideas. • experience heightened possibilities of receiving teasing or rejection from other children based on an aspect of identity. • experience heightened possibilities of absorbing socially prevailing norms or negative stereotypes about themselves.	• have constructed a core sense of identity that includes their gender, race and ethnicity, physical abledness, and beginning awareness of class. • become increasingly interested in "hanging out" and identifying with classmates who are alike, e.g., girls with girls, boys with boys. • begin to identify themselves and their families as members of larger racial or ethnic groups. • can suffer serious damage both to self-esteem and to a positive sense of racial or ethnic group identity if they experience the impact of societal biases.	• are constructing or have constructed the cognitive ability of "class inclusion" that makes possible children's understanding of how they can have many different aspects of identity and still be one person, and of how people who are not exactly the same as them can belong to the same ethnic group as they do. • begin to weave the various aspects of identity into a whole (I am a boy, Mexican-American, speak English and Spanish, like rap, am Catholic and middle- class). • demonstrate heightened interest in learning about their ethnic group in their community, city and country, especially through oral stories, written autobiographies and biographies, although learning still must be concrete. • grapple with where they fit as individuals into their group identities—their gender, their ethnicity.

This section is adapted from Derman-Sparks, L. (1992). "Reaching Potentials Through Antibias, Multicultural Curriculum." In Bredekamp S. and Rosegrant, T. (eds). (1992). *Reaching Potentials: Appropriate Curriculum and Assessment for Young Children.* Volume I. pp. 118-121. Washington DC: National Association for the Education of Young Children. It is reprinted with permission from the publisher.

GOAL 2: To foster each child's comfortable, empathetic interaction with diversity among people.

Includes developing the *disposition* as well as the knowledge to understand and appreciate similarities and differences among people, to respectfully and effectively ask and learn about differences, and to comfortably negotiate and adapt to differences.

2- & 3-year-olds	4-year-olds	5-year-olds	6-year-olds	7- & 8-year-olds
• notice and ask about other children's and adult's physical characteristics, although they are still more interested in their own. • notice other children's specific cultural acts, e.g., Elena speaks differently from me; Hei eats with chopsticks; Jamal's grandpa, not his mother, brings him to school. • may exhibit discomfort and fears about skin color differences and physical disabilities.	• are increasingly interested in how they are alike and different from other children; construct "theories" that reflect "preoperational thinking" about what causes physical and apparent cultural differences among children and adults they know, societal stereotypes, and discomforts. • although still focused on themselves and others as individuals, begin to classify people into groups by physical characteristics (same gender, same color, same eye shape) using the general classification schemes they apply to inanimate objects (for example, lack of class inclusion). • are often confused about the meaning of adult categories for what "goes together." For example, how can a light skinned child have a dark skinned parent? Why are children called Black when their skin isn't black? Mexican people speak Spanish; if I don't speak Spanish, I'm not Mexican. Girls are supposed to have girl names so how can "Sam" be a girl? How can you be an "Indian" if you aren't wearing feathers? • begin to become aware of and interested in cultural differences as they relate to the daily lives of children and adults they know (for example, who makes up their family, who lives in their house, what languages they speak, what jobs family members do). • show influence of societal norms in their interactions with others ("Girls can't do this; boys can.") and learned discomforts with specific differences in their interactions with others ("You can't play; your skin is too dark.").	• demonstrate continued interest in gender, racial, ethnic, and ability differences and similarities, as well as an awareness of additional characteristics such as socioeconomic class, age, and aging. • demonstrate heightened awareness of themselves and others as members of a family and curiosity about how families of other children and teachers live. • continue to construct theories to classify or explain differences among classmates. • continue to absorb and use stereotypes to define others, and to tease or reject other children.	• have absorbed much of their family's classification systems for people, but still get confused about why specific people are put into one or another category by adults. • use prevailing biases, based on aspects of identity, against other children. • are beginning to understand that others also have an ethnic identity and various life-styles as they understand their own emerging group identity.	• demonstrate heightened curiosity about other people's life-styles, religion, and traditions, including people with whom they do not have direct contact. • can begin to appreciate the deeper structural aspects of a culture, e.g., beliefs about human's relationships to the land and the impact of different historical environments on people's lives. • understand, through new cognitive tools, that there are different ways to meet common human needs. • can begin to appreciate the past if history is presented concretely through stories about real people. • may experience heightened in-group solidarity and conflict between children based on gender, race, ethnic identity, and socioeconomic class, and exclusion of children with disbilities because of interest in their own groups and because of the impact of societal biases on them.

Goals & Developmental Expectations of Anti-bias, Multicultural Curriculum for Young Children (continued)

GOAL 3: To foster each child's critical thinking about bias.

Thinking seriously about bias means developing the cognitive skills to identify unfair and untrue images (stereotypes), comments (teasing, name calling), and behaviors (discrimination) directed at one's own or another's identity–whether gender, race, ethnicity disability, class, age, weight, or other characteristics—and the emotional empathy to know that bias hurts.

2- & 3-year-olds	4-year-olds	5-year-olds	6-year-olds	7- & 8-year-olds
• are learning to be comfortable with various differences through repeated supportive experience. These experiences lay a foundation for later understanding of "fair"/ "unfair" images and behaviors.	• can begin to use concrete experiences and verbal feedback from adults to explore the reality of their "theories" or misconceptions about human differences. • can begin to develop the foundation for critical thinking by comparing a fair and an unfair image. • can begin to learn to distinguish between a person's action that is not positive and a person's identity. • can accept the limits of not teasing a person because of who they are and develop emotional understanding (empathy) that teasing or rejection because of identity hurts, just as hitting does.	• can begin to think critically about stereotypes, comparing reality to stereotyped images and determining what is fair or unfair. • can begin engaging in critical thinking about unfair or hurtful behaviors (name calling, teasing) in specific, real situations. • can begin problem-solving, caring about ways to respond to differences. • can begin engaging in critical thinking about specific societal norms, but only on an individual basis. For example, "Some people say that a person who uses a wheelchair can't be a teacher, but I know Martha is a teacher."	In addition to what 5-year-olds can do: • can also begin to engage in comparisons about correct and incorrect beliefs about various groups (not just individuals) by gathering and using concrete data relevant to them (for example, "Some people say men can't be nurses or take care of children, but we have gathered evidence that says otherwise." "Girls can't do science, but we have learned . . . ." "People with visually impairments can't work, but we have learned . . . .").	• have the cognitive tools to think about their own ideas and begin to understand about the influence of socially prevailing stereotypes on them, although they have absorbed and internalized many stereotypes and prejudices. • can use emerging reading and writing skills to gather data that challenges stereotypes and erroneous ideas about people based on gender, race, ethnicity, disabilities, class, or other characteristics.

GOAL 4: To foster each child's ability to stand up for herself or himself and for others in the face of bias.

Confronting bias means helping each child learn and practice a variety of ways to speak up when: (1) when another child acts in a biased manner toward her or him, (2) a child acts in a biased manner toward another child, and (3) an adult acts in a biased manner. Goal 4 builds upon Goal 3; critical thinking and empathy are necessary components of acting for one's self or for others in the face of bias.

2- & 3-year-olds	4-year-olds	5-year-olds	6-, 7- & 8-year-olds
• are learning acceptable ways to express their feelings when they want something or when others hurt them.	• engage in simple problem-solving and conflict-resolution techniques for dealing with incidents of teasing or rejection directed at their own and others' identities.	• problem-solve and use ways to handle specific unfair comments and behaviors that arise in their school or home lives. • gain emotional food for thought from stories about adults who have worked for social justice, especially adults they know. • with adult help, create and engage in simple group actions based on a concrete, meaningful experience in their daily lives, for example, working to get a handicapped parking space at their child care center.	• develop fair classroom behavior rules for identity issues with greater understanding, more autonomy, and more depth. • identify respectful ways to ask about cultural behaviors and ideas different from their own. • learn about people who work for social justice in their communities. • problem-solve specific group actions related to a concrete discriminatory situation in their school or immediate community.

References and Resources

Educational Equity Consultant
Iowa Department of Education
Grimes State Office Building
Des Moines, Iowa 50319-0146
515-281-3179

Very Special Arts Iowa
Iowa Department of Education
Grimes State Office Building
Des Moines, Iowa 50319-0146

Iowa Arts Council
Capital Complex
Des Moines, Iowa 50319
515-281-4451

Iowa Alliance for Arts Education
Division of Continuing Education
Room 116, International Center
Iowa City, Iowa 52242
319-335-2201

State Historical Society of Iowa
Museum Education Office
600 East Locust
Des Moines, Iowa 50319
515-242-5193

Des Moines Art Center
4700 Grand Ave.
Des Moines, Iowa 50319
515-277-4605

Urban League of Nebraska
3022 North 24th Street
Omaha, Nebraska 60110
402-453-9730

Nebraska Department of Education
Director of Race Equity
Special Education Department
301 Centennial Mall South
PO Box 94987
Lincoln, Nebraska 69509-4987
402-595-2177

Articles Gallery
PO Box 241377
Omaha, Nebraska 68124
402-393-6198

Bemis Foundation
614 South 11th Street
Omaha, Nebraska 68102
402-341-7130

Black Studies Department
University of Nebraska at Omaha
60th and Dodge
Omaha, Nebraska 68182
402-554-2800

Great Plains Black Museum
2213 Lake Street
Omaha, Nebraska 68110
402-345-2122

Nebraska Arts Council
Joslyn Carriage House
3838 Davenport
Omaha, Nebraska 68131
402-595-2122

Native American Research Training Center
Director of Indian Education
Bismark, North Dakota
701-224-3350

Director of the Equal Education Opportunity Section
Nebraska Department of Education
301 Centennial Mall South
PO Box 94987
Lincoln, Nebraska 68509-4987
402-471-2477

Native American Community Development Corporation
2451 St. Marys Avenue
Omaha, Nebraska 68105
402-341-8471

Two Rivers Inter-Trial Council
701 Grand Avenue
Des Moines, Iowa 50309

Santee Sioux Tribe
Rural Route 1
Niobrara, Nebraska 68760
402-857-3738

Omaha Tribe of Nebraska
PO Box 357
Macy, Nebraska 68039
402-837-5336

Winnebago Tribe of Nebraska
PO Box 787
Winnebago, Nebraska 68071
402-878-2200

Mexican-American Commission
PO Box 94965
State Capitol Building
Lincoln, Nebraska 68509
402-471-2791

Chicano Awareness Center
4825 South 24th
Omaha, Nebraska 68107
402-733-2720

Iowa Head Start-Migrant Programs
Proteus Migrant Head Start
175 NW 57th Place
Box 10385
Des Moines, Iowa 50306
515-244-1332

Nebraska Head Start-Migrant Programs
Panhandle Community Services
Gering, Nebraska 69341
308-635-3089

Bilingual Education Consultant
Iowa Department of Education
Grimes State Office Building
Des Moines, Iowa 50319-0146
515-281-3805

Bureau of Refugee Programs
Iowa Department of Human Services
1200 University Avenue, Suite D
Des Moines, Iowa 50214
515-281-4334
Toll free in Iowa 1-800-362-2780

Center for Educational Experimentation, Development and Evaluation
N 345 Oakdale Hall
Oakdale, Iowa 42319
319-335-4116

National Clearinghouse for Bilingual Education
11501 Georgia Avenue
Wheaton, Maryland 20902
800-647-0123

Upper Great Lakes Multifunctional Resource Center
Wisconsin Center for Educational Research
School of Education
University of Wisconsin at Madison
1025 West Johnson, SE
Madison, Wisconsin 53706
608-263-4220

Council on Interracial Books Bulletin
PO Box 1263
New York, NY 10023
(quarterly)

The Council for Exceptional Children
1920 Association Drive
Reston, VA 22091-1589
703-620-3660

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Multicultural Classroom Environment Checklist

This checklist is designed to help teachers determine if the classroom environment and activities reflect multicultural perspectives. By using the checklist, the teacher will focus on individual aspects of the classroom environment and curriculum, highlighting areas of curriculum that need improvement. Teachers are encouraged to rate the classroom environment as it is and work on changes which make the classroom the way they would like it to be.

1. Does the classroom have a wide variety of age-appropriate and culturally diverse books and language arts materials?

   Yes ____ *No* ____

2. Are there stories about persons from each of these cultural groups in the classroom library?

   ____ Native American
   ____ Spanish-speaking
   ____ Asian-American
   ____ African-American
   ____ Caucasians Ethic Groups

3. Do the characters in classroom books have personalities like real people?

   Yes ____ *No* ____

4. Are there stories about the contemporary life of a given ethnic group as well as tales and legends?

   Yes ____ *No* ____

5. Are there pictures of people displayed in the classroom representative of a multicultural community?

   Yes _____ *No* ____

6. Do materials and games present people in non-stereotypic ways? For example, are there examples of women in science and math careers; men in nurturing roles; Native Americans in the 90's? List examples from your classroom.

   Yes ____ *No* ____

7. Do the people in the block accessories go beyond stereotypic roles? List some examples.

Yes ____ *No* ____

8. Is there a wide variety of clothing, including traditional and modern garments from a variety of culture groups, in the dramatic play area?

Yes ____ *No* ____

9. Are the dolls in the dramatic play area of both genders?

Yes ____ *No* ____

10. Do the dolls represent a variety of races in realistic ways?

Yes ____ *No* ____

11. Do the music experiences in the curriculum reinforce children's affirmation of cultural diversity?

Yes ____ *No* ____

12. Are finger plays, games, and songs from various cultural groups used in the classroom?

Yes ____ *No* ____

13. Do the cooking experiences in the classroom encourage children to experiment with foods other than those with which they are familiar?

Yes ____ *No* ____

14. Are the cooking experiences designed to give young children a general notion of the connections between cultural heritage and the process of preparing, cooking, and eating food? If so, how?

Yes ____ *No* ____

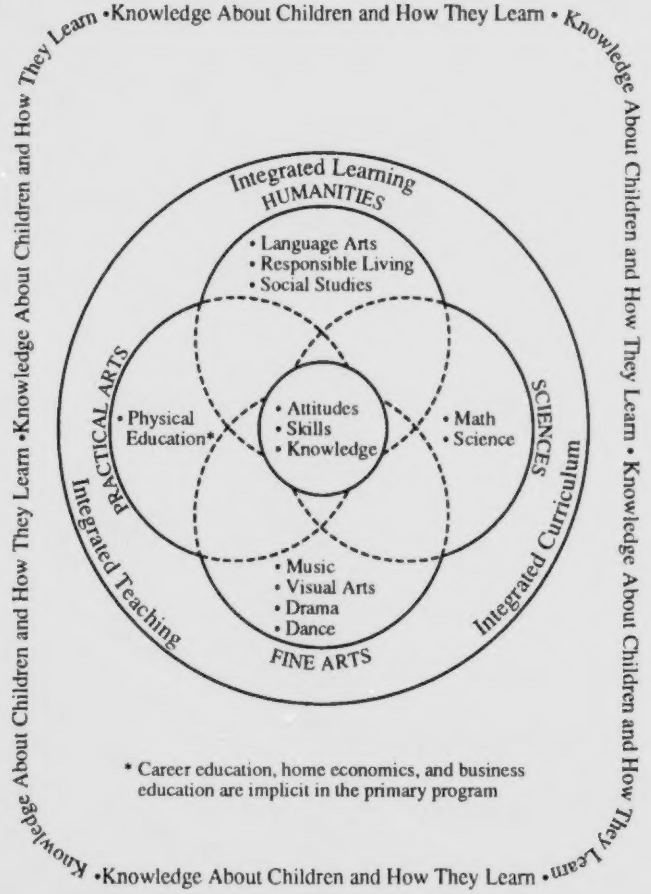
(Adapted from *Diversity in the Classroom* by Frances Kendall)

School-wide Diversity Checklist: Do you . . . ?

- Provide activities that require children to combine their energies to reach a common goal, such as group mosaics or construction projects?
  Yes ____ *No* ____
- Use group projects to reinforce the idea that working together is fun and productive?
  Yes ____ *No* ____
- Encourage children to practice taking another person's point of view?
  Yes ___ *No* ___
- Provide children with first-hand experiences which reflect a variety of races, cultures, and ethnic groups, e.g., going to a museum in an urban center or dramatizing stories from various cultural origins?
  Yes ____ *No* ____
- Invite community members to share special skills related to their culture?
  Yes ____ *No* ____
- Have a wide variety of materials in the classroom which represent many backgrounds and cultures? (See *Multicultural Classroom Environment* list.)
  Yes ____ *No* ____
- Use songs and games from various cultures?
  Yes ____ *No* ____
- Send general messages that there are many ways to do similar tasks and sometimes these ways are influenced by where we come from?
  Yes ____ *No*____
- Talk to parents about multicultural education?
  *Yes*____ *No*____
- Incorporate multiple perspectives when discussing events or investigating new topics?
  Yes ____ *No*____
- Engage in activities which demonstrate both cultural diversity and human similarities? For example, we all use language even though there are many languages. (Learn some phrases in several languages.)
  *Yes*____ *No*____
- Take walks in the community and talk about the many roles and services people provide?
  *Yes*____ *No*____
- Talk about how we need all of the people to make the community work?
  *Yes*____ *No*____
- Demonstrate interdependence through engaging children in activities which require individual contributions to a whole?
  *Yes*____ *No*____
- Encourage the equitable distribution of leadership opportunities and positions within the school?
  *Yes*____ *No*____
- Work to have all cultures represented in the school system?
  *Yes*____ *No*____
- Support networks for antiracism within the school?
  *Yes*_____ *No*____
- Serve on personnel committees that hire staff?
  *Yes*____ *No* ____
- Support national organizations such as the national YMCA and YWCA that are working to eliminate racism?
  *Yes*____ *No*____
- Advocate for quality child care for all children?
  *Yes*____ *No*____
- Work with organizations to increase local, state, and federal resources for immunization programs, child care programs, and other social services?
  *Yes*____ *No*____
- Seek resources from which to obtain multicultural materials as well as information about specific cultures or about groups doing antiracism work?
  Yes ____ *No*____

Fine Arts

- Dance
- Drama
- Music
- Visual Art


•Knowledge About Children and How They Learn •Knowledge About Children and How They Learn •Knowledge About Children and How They Learn •Knowledge About Children and How They Learn •Knowledge About Children and How They Learn •Knowledge About Children and How They Learn
Integrated Learning
HUMANITIES
• Language Arts
• Responsible Living
• Social Studies
PRACTICAL ARTS
• Physical Education*
• Attitudes
• Skills
• Knowledge
SCIENCES
• Math
• Science
Integrated Teaching
Integrated Curriculum
• Music
• Visual Arts
• Drama
• Dance
FINE ARTS

* Career education, home economics, and business education are implicit in the primary program

Fine Arts Curriculum

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Fine Arts in the Primary Program

Common Understandings

EDUCATION IN THE FINE ARTS is concerned with the invention, expression, and examination of personal meaning. Participation in dance, drama, music, and visual art provides a unique mode of experience that stimulates creative and intuitive thought while developing aesthetic judgment and a sense of personal worth.

Children involved in fine arts experiences utilize processes of perceiving, transforming, valuing, and presenting. At the primary level, education in and through the fine arts represents a recognition of the young child's natural disposition to draw, sing, dance, and take on a role, and should continue to develop and refine this form of experience.

Primary age children need opportunities to transform sensory experience into languages not bound by words and to synthesize imagination, intellect, and emotion. The fine arts provide this challenge and allow the student to reflect upon the expressions of past and present cultures and to explore the ways in which these shape the future.

The primary fine arts program provides for a balance in the goals, disciplines, and approaches to education for primary children. The fine arts learning content and descriptors that follow reflect this balance among the four arts disciplines of dance, drama, music, and visual art. Each year, students should have learning experiences in all of these disciplines. Over the primary years, this balance should remain and always support the interests, abilities, and needs of the children.

In the arts, students learn most effectively through their own direct experiences, and their work will reflect significant artistic individuality. Approaches to teaching should actively encourage these artistic differences, permitting students to develop individual competency within art forms and confidence in their own abilities to express themselves.

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Learning Through the Fine Arts: Dance

DANCES MAKES a significant contribution to the curriculum in terms of human development and expression. Every person uses motion both functionally and expressively, and every person comes equipped with the instrument for dance–the body. Expression through dance is the association of movement with qualities of feeling and with structure. Dance enables a statement of what we know, sense, feel, or value to be created in the form of body movement.

Dance is:

- an individual process of exploring, expressing, and externalizing aesthetic experience;
- a powerful means of communication; and
- an expression of tradition and culture.

The above characteristics of dance can serve to organize dance experiences for primary children into a framework which examines:

- Representing–doing dance;
- Creating–dance making; and
- Appreciating–critical and sensitive response.

The Child in Dance

By the time children come to school they have already learned spontaneously an enormous amount about movement, through observation, exploration, and play. Just as very young children absorb language from their environment, so do they also dance naturally in expressing their feelings and responses to their world. Their movement skills are, therefore, already well-developed by the time a child enters school, and it becomes the task of the teacher to provide opportunities for this development to continue.

Physical Development

The kind and nature of movement experiences which primary children require are determined by physical characteristics.

- Large muscles are better developed than small muscles and hand-eye coordination is becoming refined. Since development of motor control proceeds from gross to fine and from general to specific abilities, movement activities should emphasize the whole body, avoiding intricate sequences.

- The heart has developed less rapidly than the other systems of the body, and children of this age may become fatigued. In a class that has a high level of activity, children require frequent rest periods interspersed with the activity.
- Children will begin to favor one side of their body due to the development of "handedness." Care should be given to encourage movement on the side that is not favored.
- There are no major physiological differences between boys and girls at this age. They all enjoy and need lots of rhythmic activity and learn well through the medium of dance.

Cognitive Development

Children of early elementary age are beginning to represent symbolic objects and events and their relationships. Motor activity and active exploration of the environment is vital to this process of symbolic representation.

Attention spans tend to be short and will determine the amount of high focus concentration young children can sustain within each dance lesson. Alternating instruction with child activity can maximize the amount of focused time available to the teacher.

Egocentricity is characteristic of children at this age: dance work will tend to reflect their own spatial perspective, rather than ordering all objects and peers into a common perspective. Moving a class of children through gymnasium or classroom space, therefore, requires special attention to safety and respect for the movement space of others.

Psycho-Social Development

Children in the primary age range need a great deal of encouragement and support from their teachers in order to take risks and try new experiences. They seek approval from adults to confirm their participation in a new activity and to reinforce their learning of a new skill or concept.

Students will enjoy relating to their peers and working with them in a group situation, as they are developing comfort with social interaction and the demands of group participation.

Imaginative play is very well developed in children of this age, and they are eager to involve themselves in imagined situations, creative challenges, and role play.

Dance Movement Skills

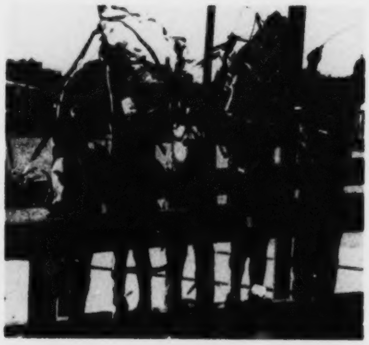
Body	Dynamics	Space	Relationships
What the body does	*How the body moves*	*Where the body goes*	*With whom the body movements are done*
Locomotor Walk Run Skip* Jump Hop Slide* Gallop Lean * Uneven rhythm **Non-Locomotor** Bend/stretch Swing/sway Rise/fall Twist/turn Strike/dodge Push/pull Stop **Body Shape** Side/narrow Twisted Rounded/angular Symmetrical/ asymmetrical **Body Percussion** Snaps Claps Stamps Slaps	**Time** Sudden/sustained Pauses Speed - fast/slow - Accelerate - Decelerate Rhythmic **Energy** Muscular Force - Strong/light Weight - Heavy/light **Flow** Free/bound	**Direction** Forward Backward Sideways Diagonal **Size** Large Medium Small **Level** High Medium Low **Pathways** Floor and air Straight/angular Curved **Focus** Eyes Body	**Situations** Teacher/class Individuals/groups Partners/individuals Meeting/parting Action/reaction Near/far Contrasting Matching Leading/following Mirroring Shadowing Echoing Connecting Supporting **Formations** Scattered Lines Squares Circles Groups Bunches

Representing: Doing Dance

Basic Elements

There are four basic elements of dance:

- **The Body**–The instrument of dance and the vehicle for artistic expression and communication is the body.
- **Dynamics**–Variations in time, energy, and flow influence the movement and create interest and emphasis in dance.
- **Space**–In dance, real space is transformed into symbolic space. The way a dancer relates to space as well as to objects in that space helps create the meaning of dance.
- **Relationships**–The relationships between and among dancers form the basis for pattern and structure.



Kinesthetic Awareness

Children need daily experiences which will extend their own body awareness and develop their conscious perception of how the body feels in a wide range of movement activities.

In imaginative play, children's ideas, emotions, and impressions need to be expressed through movement to build on their natural capacity and inclinations in dance. Through a variety of movement challenges, students will acquire muscle "memory" and understand how their bodies react to an array of demands.

Open and sensitive attitudes toward the body are important in the primary years in order to develop children's relaxation and concentration on movement, naturally and successfully.

Creating: Making Dance

Imitation

Using a "follow-the-leader" approach, students can explore different movements and skill combinations demonstrated by the teacher and by one another, either simultaneously or as an echo following the observation. Through these experiences, children learn what movements and sequences are possible and how individual elements contribute to the movement.

Exploration

This aspect of dance involves the child's exploration of movement generated as a result of a challenge or question presented; for example, "Move as if the floor were a boiling river bed, and you must cross it to reach safety on the other side." Through comparison and discussion of the solutions demonstrated, students begin to learn how to make their own individual decisions in problem-solving and increase their repertoire of appropriate movement responses. Reflection and discussion lead to further work and to refinement of the dance sequence.

Improvisation

This process involves the student's spontaneous response to a stimulus such as music, short stories, poems, news items, drawings, paintings, and visual patterns. Students use the skills from their imitation and exploration activities to form a knowledge and experience base for their improvisation.

Improvisation requires considerable preparation, support, and direction from the teacher in order to develop confidence and spontaneity in the student. The dance problems must be clearly expressed and formulated according to the ability level of the students in order to stimulate movement that is personally satisfying to each child. In compositional work, students will need to have many imitative and exploratory experiences with each step of the process before approaching an individual or group task.

Appreciating: Critical and Sensitive Response

Critical Response

What happens in a dance class must relate immediately to the child's life. The descriptions, discussions, reflections, and analyses of movements from children's own experiences will serve as starting points for responding to dance elements, form, and content observed in their own work and in that of others. From this foundation comes the habit of inquiry in which students are always identifying and reflecting upon what is expressive in a dance work and reacting to what is perceived through discussion, writing, or verbal or visual images. A student will begin to formulate preferences in terms of form, style, and overall impression as well as the ability to explain these preferences with reference to the appropriate dance elements and how these affect the presentation as a whole.

Dance Awareness

Dance provides a medium for expression that involves movement of the total self, not merely a part (e.g., the voice) or an extension of the body (e.g., paint brush, recorder). Children will delight in the direct awareness and control of their own bodies. They need, however, to acquire an ability to think in terms of movement so that representing through this form involves creative use of the dance elements, not merely a dramatization of ideas or events. They need to develop their ideas for a dance in terms of these dance elements (e.g., time, force). When they become familiar with movement as a distinct and separate area of expression, not just as an adjunct for dramatic action, then they will express and communicate spontaneously and delightfully through this form.

Learning Through the Fine Arts: Drama

Principles of Drama

DRAMA IS ABOUT how people deal with each other. It is the symbolic representation of human interaction and, thus, encompasses those dynamics of human interaction that are natural to people: language, symbol, gesture, valuing, and negotiation. Two basic principles apply to learning in drama:

- *All people live their lives within a dramatic context.* Teaching children to recognize the nature and characteristics of this dramatic context provides them with the ability to understand and to make decisions about and during life situations.
- *Students should learn to make informed judgments about dramatic art,* i.e., understanding and expressing preferences in theater, film, and television.

Components of Drama

As an art form, drama is an aesthetic combination of the following elements:

- ***Tension*** which defines the dynamic quality of all human relationships and is in constant flux;
- ***Focus*** which deals with our need and ability to select from the many stimuli around us;
- ***Form*** which is the medium for the expression of dramatic meaning and also a part of the dramatic meaning itself; and
- ***Symbol*** which is the device we use to represent ourselves, our feelings, and our values.

These components are dynamic and interdependent, and they exist in ever changing relationship to one another.

Drama as a Process

Drama is a process centered on the child. It involves the spontaneous dramatic play of young children and the games, characterizations, and dramatizations arising from children's imagination and experience. Children within a drama define their own expectations and are, therefore, free to challenge themselves, to experiment, and to grow. Success in a drama comes from the depth of the experience for the participants and the new understanding that emerges of an issue or of relationships.

Theater is an art form involving the presentation of dramatic literature to an audience. Theater entertains and makes a statement. A communication between audience and performers is intended in which the skills of actors, directors, designers, and technicians are focused toward an aesthetic ideal.

Children learn to interpret and represent the dynamics of human interaction through their work in drama. This understanding is the foundation of knowledge about the art of theater. In addition to the opportunity to create through drama, children in the primary program should experience a variety of appropriate, quality live theater, film, and video performances. Through participation and experiences in drama, children develop an understanding of the diversity of human relationships.

Drama as a Learning Medium

Drama is a special learning medium. While it is a discrete area of learning, it can also be an effective method of teaching concepts from other disciplines. That is, drama is simultaneously subject and method.

Working in drama naturally invites the introduction of knowledge and skills from many disciplines. The human dilemma inherent in every drama stimulates a search for all aspects that can contribute meaning in context. It would be natural for a drama to arise from a social studies issue and then to involve writing, singing, drawing and painting, measurement and design, team building, and decision-making. All of these skills and knowledge will be learned because they have personal meaning for each student in the context of the drama. Personal, self-initiated learning is the most effective.

The Child in Drama

Learning through drama is essential at all ages. Since the nature of the drama experience alters itself to suit the age and prior experience of children, a similar starting point may be equally valid for different groups. For example, all ages are capable of designing and carrying out a puppet play. The complexity of the script and the design will vary with the development of the learner. Since the experiential context and language base of each group is different, the learning arising from the experience is also different.

Children engaged in drama will be creating their own solutions. The results are determined in process. The outcome of the drama is not predetermined. The objectives of the lesson are set, but the impact of the learning is realized only after reflection on the choices made in seeking the solution.

Drama releases children to move, speak, and respond more freely than many traditional classroom activities which may have implications for classroom management. In drama, as in all learning, there is a responsibility to ensure that activities are safe as well as effective. Drama activities, whether exercises, role playing, or theater, should contain control to ensure maximum engaged learning time. Children should understand the drama process and the signals by which the drama will be governed.

Children need to draw personal meaning from their school experiences. Drama teaches the knowledge, skills, and attitudes that are basic and necessary for contemporary social interaction. The child-centered approach in drama creates a context that has personal significance for the student and enables all children in:

- observation
- comprehension
- sense awareness
- listening
- self-expression
- self-confidence
- problem-solving
- organization
- criticism
- imagination
- trust
- concentration
- speech
- movement
- thinking in sequence

Doing and Responding to Drama

Drama is organized around the interrelated areas of appreciation and creation. Responding to drama and doing drama are both integral aspects of any drama experience at the primary level.

Drama involves the use of specific techniques and structures that can develop in variety, sophistication, and subtlety with experience. Reflection and discussion should take place as part of the drama experience and will often lead to a change of attitude or a different understanding. Children learn about themselves and others and have the opportunity to integrate all kinds of knowledge and experience.

Elements of Drama

The elements of drama are the specific skills that enhance children's ability to participate in drama and communicate their ideas and feelings. Drama elements can be developed individually or in combination. They are: *observation and sense awareness, listening, imagination, trust, concentration, speech,* and *movement*.

Contents	Characteristics
Observation and Sense Awareness	• Identification and use of all the senses; focus on one or more senses; observation and memory of the observation
Listening	• Focused listening, identification of specific sounds, speech
Imagination	• Creation of and response to personal images; acceptance of and response to more than one image
Trust	• Identification of own strengths and weaknesses; risk taking; presentation of work to others; demonstration of leadership
Concentration	• Focus, lack of distraction; identification of focus and of changes in this in the drama
Speech	• Clear, appropriate speech, using variations in pitch and dynamics, formal and informal language to enhance meaning
Movement	• Free and controlled movement; expression of meaning through appropriate movement; compares and contrasts through movement

Structures of Drama

The structures of drama assist children to gain experience of difference forms. Children should develop an awareness of the relationship between form and meaning. Active involvement is encouraged. The lesson objectives and the students' and teachers' experiences will determine which of the drama structures are appropriate. Drama structures are role, improvisation, mime, story telling, and puppets.

Contents	Characteristics
Role	• Assuming, acceptance, and development of a role; creation of situations in role; commitment to role; contribution to the drama
Improvisation	• Group and individual dramatic play; presentation of original ideas and solutions to problems
Mime	• Representation of own imagined objects and acceptance of those presented by others; communication of ideas and feelings without speech
Story Telling	• Sharing of stories and anecdotes with others; telling and dramatization of stories from written text or oral tradition
Puppets	• Operation of a puppet; acceptance of puppet character and limitations; development of appropriate speech for the puppet

Drama Discussion

Reflection and discussion should be included in every drama experience. Oral, written, and visual responses will enable the student to explore the relationship between drama experiences and real life situations. It also provides the opportunity to reassess choices made and suggest other alternatives in many cases. Discussion of their own and the work of others will enhance language development and give children the vocabulary to analyze and evaluate drama.

Content	Characteristics
Response	• Description, interpretation, and personal response to the drama; discussion of main idea, plot, character, development; reflection on own participation and that of others; comparison of observed works from school, community, and from public media networks

Drama and People

Drama is about people and how they interact. Learning in this area is directed toward the growth in understanding that students have about human relationships and the forces acting upon these relationships.

Content	Characteristics
Reflection	• Response to individual and group presentations; consideration of many points of view; respect for interpretation of others.

Learning Through the Fine Arts: Music

MUSIC IS A LANGUAGE, a vehicle for oral/aural expression. The process of becoming musically articulate should begin early and be reinforced throughout the later years. Music provides a medium for communicating personal meaning, therefore, the responses to music are as varied as the children in the primary program.

The nature of the music experience in the beginning years is of vital importance to a complete and thorough understanding of what it means to communicate ideas and feelings and to respond to them through music. Music learning should encourage individual exploration of the elements of music as well as develop an understanding of the ways these have been organized by musicians and composers to communicate events, feelings, and ideas. Children should begin to think and create as musicians, expressing, perceiving, and reflecting upon music. They should be making up, comparing, and sharing songs, chants, rhythmic and melodic patterns, and sound collages. They should be exploring and responding to the elements of music—sound, silence, rhythm, style, etc. Sound producing instruments (including the voice) should be explored thoroughly and used to arrange musical ideas by experimenting, discussing, reflecting, and responding.

Through frequent singing of a wide variety of song material—folk songs, seasonal songs, lullabies, humorous or action songs, and songs from other land–children will develop the ability to match tones, make melodic responses, and sing in tune. They will extend and build on their own vocal qualities and feel the pleasure of contribution to group vocal sound as their voices blend together.

Participation in singing and music making will also enhance students' overall listening skills and their ability to focus hearing. Through listening and actively responding to the work of musicians and composers, children can begin to feel what they hear and hear what they feel. This brings awareness of new qualities of sound and evokes personal responses to the music.

The Child in Music

Young children can distinguish among sounds with obvious differences (high/low, loud/soft, speech/song). They usually sing in treble voices, in the range from "F" to "F" so their song material should be pitched accordingly, allowing them to sing easily at their own comfort level. Children may not understand the difference between the singing and speaking voice unless the singing is pitched at a high enough level.

Since large muscle coordination is fairly well developed, young children can move freely to rhythms and perform body percussion which uses large movements. Musical activities such as fingerplays that help develop small muscle control are very appropriate and most enjoyable for children. Body percussion patterns for reinforcing the beat should be organized at first according to a top-to-floor kind of sequence, which will be easier to start with, for example: head, shoulders, knees, toes. Where instrumental sequences or accompaniments are required in the music activity, easily controllable percussive instruments should be used at first, e.g., hand drum, triangle, rhythm sticks, and sand blocks.

Most often, musical expression takes the form of a group activity such as singing, ensemble instrumental work, or a cooperative game. However, children of this age group are very egocentric and enjoy hearing their own voices, playing the instrument themselves, or working on their own composition. Therefore, students will need to build the interaction skills that group work requires.

Internalization of the beat is the basic prerequisite for rhythmic learning, and children need repeated, daily rhythmic activities. This may be practiced through a song, a fingerplay, a poem, or a repetitive story. The development of rhythm in music supports the development of rhythm in language.

Music learning is holistic. Like other subjects taught at this level, it is most meaningful when presented as an integrated whole. Isolated elements which need emphasis should be taken from a known context, without detracting from the pleasure of experiencing the song, game, or rhythm activity.

Musical experiences should be incorporated throughout the day and connected to the other curriculum areas of the primary program. The above characteristics of music can serve to organize the learning experiences for primary children into a framework which examines:

- Representing — making music
- Creating — musical composition
- Appreciating — critical and sensitive response

Representing: Making Music

Singing and Playing

These activities are fundamental to the music program, since they form the basis for later musical expression. Wide experience in singing games, rhythmic chants, and songs of various kinds and cultures should be part of every school day.

Experiences in singing alone or with a group from memory or from simple notation, in unison or as a part in a round are central to the music program and crucial to the development of basic attitudes, skills, and knowledge in music. Ongoing musical experiences are desirable to sustain satisfaction and to document progress.

Keeping the beat with simple percussion instruments or through movement will develop: the concept of rhythmic pulse in music and language; memory; fine motor control; and the ability to play in an ensemble.

Exploring pitch patterns on melodic instruments will enhance the child's ability to discriminate higher/lower sounds and reinforce the concept of key, including the organization of scale and tone.

The Elements of Music

The fundamental elements which permit musical expression are described below:

- **Beat**–The pulse of the music which, like a human pulse, occurs at regular intervals and organizes the time limitations.
- **Rhythm**–The arrangement of long and short sounds and of silences results in rhythm patterns which are subdivisions of the beat.
- **Meter**–Organization of accented and unaccented (i.e., strong and weak) beats into groups.
- **Pitch**–Definition of sound as high, low, or somewhere in between.
- **Melody**–A series of sounds of different or repeated pitches which are linked together. The rise and fall of the pitches by small or large degrees gives the melody its distinctive shape.
- **Form**–The design of the music, the way the musical phrases are arranged, their repetition or contrast, gives the music its form.
- **Harmony**–Harmony is created by the simultaneous sounding of two or more notes of a chord. Traditional harmony defines the chord structures upon which a piece of music is based.
- **Dynamics**–Musical dynamics are the degree of loudness and softness (volume) of the sound.
- **Tempo**–The speed at which the beat moves: a faster beat results in a quicker tempo.
- **Timbre**–Also called tone color, the characteristic quality of a sound that distinguishes it from other sounds. Voices, instruments, and environmental sounds vary in their timbres according to shape, size, material, and way the sound is produced, e.g., by striking, blowing, plucking.

Creating: Musical Composition

Most young children will improvise songs spontaneously. They enjoy playing with musical ideas, language, and sounds. Classroom musical activities can build on this natural free exploration for creative musical growth in later years. Students can explore vocal sounds; improvise their own songs for poems or riddles; add new verses to a known nonsense or other song; sing improvised "answers" to unfinished musical "questions" sung by the teacher or other students; and create a simple, melodic ostinato for a known song.

Using classroom instruments, children can create melodic and rhythmic patterns; complete musical sentences; develop sound effects for a song, rhythm chant, story or verse; create a simple instrumental accompaniment for a known song; and compose their own musical pieces to express a mood or feeling. Using sound to create a personally satisfying musical statement compels students to make decisions about sounds and musical expressiveness and to draw conclusions about how music functions, how it is organized, and how it can represent feelings, ideas, or events. Through composing, students are able to learn about music at their own level of understanding, using the knowledge they have gained from previous imitative or exploratory experiences.

Responding: Critical and Sensitive Response

Although essentially abstract in nature, music is a powerful medium for communication and personal expression found in every culture. The ability of music to express and communicate depends on the way sounds and silences are manipulated and grouped, the way the musical elements interact with each other as well as on instrumental, vocal, and design effects.

Response to music is a very individual matter. Some children will link musical events with real ones, some will visualize an imagined context, and still others will respond on an emotional level with joy or sadness, fear or relaxation. People's responses differ according to their past experiences, their personal context, and their level of learning in music itself. Although there will be similarities in the responses, music, unlike language, cannot always be translated into a specific image, event, or emotion.

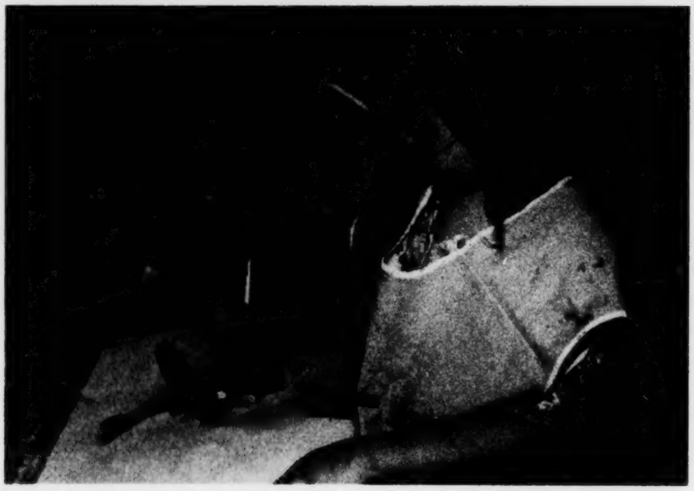
As students expand their musical knowledge, they begin to develop a set of aesthetic values upon which to make musical judgments and which allow them to comprehend the expression of feeling in music and thereby heighten the pleasure they derive from it.

Learning Through the Fine Arts: Visual Art

> *"In the end I do not distinguish science and art except as methods . . . Art is the representation, science the explanation of the same reality."*
>
> *Read, Education Through Art, 1974.*

ART IS BASIC to individual development and must be taught effectively beginning in the early years. The Arts, Education and American Panel (American Council for the Arts in Education, 1977) issued the following statement:

"This Panel supports the concept of 'basic education,' but maintains that the arts, properly taught, are basic to individual development since they, more than any other subject awaken all the senses–the learning pores. We endorse a curriculum which puts 'basics' first because the arts are basic, right at the heart of the matter. And we suggest not that reading be replaced by art but that the concept of literacy be expended beyond word skills."



Art is a distinctive way of knowing. A child can represent knowledge, skills, and attitudes through the medium of the visual arts. Children's art is nonverbal language (Franks, 1979). Children can communicate thoughts and feelings in art before they develop more conventional means of expressing ideas and emotions in words. (Lasky & Mukerji, 1980).

Every teacher has seen the power of the language of art. From the child who explores with paint in order to make sense of the medium to the child who represents a growing plant in the science center, art assists children in making meaning for themselves about the world. Making sense is the path to learning, one of the basic tasks for young children. They learn by making connections between earlier experiences and current experiences so that ideas become clearer, more focused, or more accurate.

"Art is a fundamental and distinctive way of knowing. Children can communicate thoughts and feelings in art before they develop more conventional means of expressing ideas and emotions in words."

Lila Lasky and Rose Mukerji, Art: Basic for Young Children, National Association for the Education of Young Children, 1980.

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The visual art component of the primary program reflects both current trends in art education as well as the goals of the primary program. Children enter school with previous experiences in art. By developing these attitudes, skills, and knowledge, students extend their visual ideas and respond to their world with an increasing level of conceptual and aesthetic awareness.

Students learn in art by developing and responding to images. Through the process of creating images, children can represent their ideas and feelings in visual form. This opportunity to give meaning to experiences by expressing them in a visual way provides children with a unique means of communicating what they see, think, and feel. Art is also a process of responding to images whereby children come to know and appreciate their visual form, sharing their understanding of the world around them. They express personal views; explore new ways of perceiving; investigate past, present, and future worlds; and use their imaginations to think, discover, invent, and express new ideas. As children develop and respond to images, an understanding of the elements and principles of design emerges. Experience with a variety of materials and processes also increases children's understanding of what they see and make.

The Child in Art

Children Learn Through Art

All areas of the child's development are enhanced by aesthetics. Visual art connects with physical, cognitive, and social development (see chart below, Lasky & Mukerji, 1980). Incidental learning, e.g., sequencing a process as one child explains it to another; and guided learning, e.g., children are building a town in the block area so the teacher suggests making some buildings out of the boxes in the art area; occur as the child is engaged in active learning.

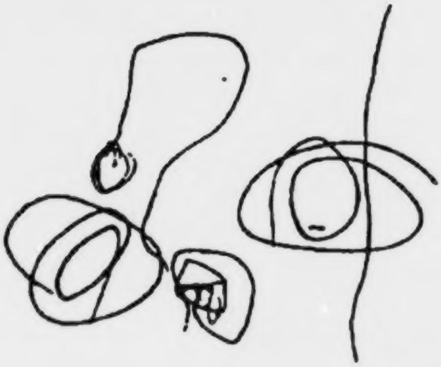
Physical/Perceptual Development	Cognitive Development	Social/Emotional Development & Development of Responsibility
Tactile-kinesthetic awareness Visual awareness Spatial awareness Body awareness Eye-hand coordination Laterality and directionality Shape, size, color discrimination Figure-ground orientation Part-whole discrimination Fine motor control Technical skills	Clarify and elaborate meaning Associate related information and ideas Sequence events Understand cause and effect Solve problems Make decisions Generalize Communicate ideas nonverbally	Sense of trust Sense of identity/individuality Sense of autonomy/independence Express and deal positively with emotions Extend flexibility Aesthetic growth Appreciate and value others' ideas and work Share Cooperate Take turns (delay gratification) Adapt to group needs/interests Resolve interpersonal conflicts Acquire interests for leisure time

Stages in Art Development

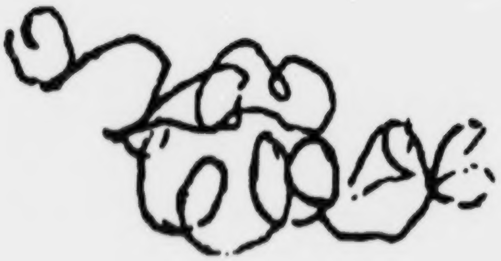
By the time children arrive at school, they have had considerable experience in image making. A scribble stage can begin as early as 18 months, if the child is given the opportunity. Research has provided us with some insights regarding universal stages children go through in their image development. The activities and materials offered must be suited to the developmental age as well as to the interests and abilities of students. The following is a brief summary of normal image development stages. (Note that each of the four interrelated content areas, as outlined in the conceptual model, is involved in the earliest stages of art development.)

The Scribbling Stage

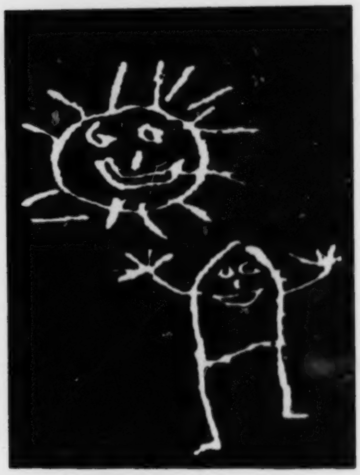
At this stage, the child realizes the excitement of making a mark. The exploration of different types of marks from straight strokes to circular lines develops, and greater mastery of control and placement is achieved as the child continues to experiment.



Disordered Scribbling
Age nine months to two years



Named Scribbling *"Wooly Bear"*
Age two



"Man in the Sun"
Age four

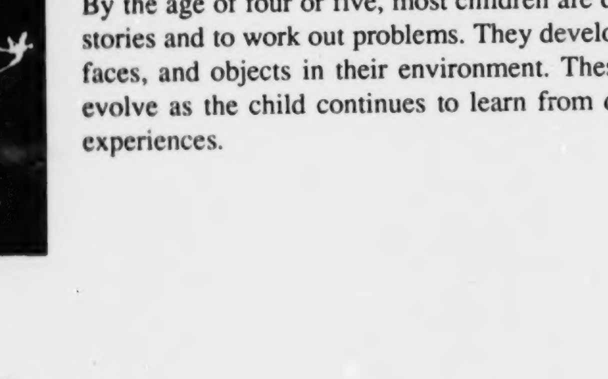
The Symbols Stage

Soon after the discovery that a mark can be made comes the realization that a drawn mark can stand for something and be named. In children's play, three-dimensional objects can also become symbols.

By the age of four or five, most children are drawing pictures to tell stories and to work out problems. They develop symbols for figures, faces, and objects in their environment. These schema continue to evolve as the child continues to learn from drawing and modeling experiences.

The Stage of Complexity

Beginning in early elementary, children strive for more detail and realism in their art. They become less easily satisfied with the completeness of the composition of their drawing. The three-dimensional forms children produce also need to become more realistic to satisfy them. Symbols are replaced by attempts to represent specific objects or people.

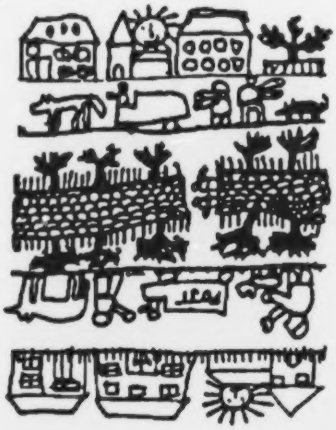


X-Ray Drawing *"People in Bus"*
Age five

As students move through the primary years, their passion for realism continues. This can lead to a sense of frustration if they are not helped to see that there are solutions to problems in art. With continued exploration and learning from experience, children are able to learn to use symbolic, realistic, and imaginative solutions to visual problems.

To help children learn to their full potential, visual art experiences must challenge and extend their ability and thinking. While there is some agreement regarding the overall pattern of artistic development, each child has unique needs, interests, and capabilities. These will vary considerably and be influenced by previous experiences, knowledge, and skill in visual art, by level of maturation as well as by social and cultural background. Some children make rapid leaps forward or return to earlier forms of image making for reasons of their own.

Development does not take place automatically as a result of maturation. All children need continuing and sequential learning experiences which are appropriate to their needs, interests, and development levels. Observing changes in the images and objects created will help teachers and parents understand, share, and assist children's artistic development.



Fold-Over Drawing *"My Street"*
Age six

Organizing Art Experiences

The characteristics of art can serve to organize the art experiences for primary children into a framework which examines:

- developing images;
- materials and processes;
- elements and principles of design; and
- responding to art.

Developing Images

Image making is a human characteristic and can become an important language–a way of recording observations, past events, feelings, and fantasies; a way of knowing. For children, image making is a natural activity, as natural as speech. They express themselves visually with anything that will make a mark on anything that will take a mark. This process starts at an early age and grows and changes as the child matures. Scribbling precedes image making in much the same way as babbling precedes speech. The same is true for three-dimensional exploration. The stages of development presented in "The Child in Art" indicate that simple objects represent more complex areas and that the use of materials and manipulative processes becomes more consciously modeled as the child develops and matures.

Image making begins with looking, experiencing, and remembering. Rich sensory experiences help students to develop observational skills and to create personal images. Through discussion, students may recall memories and images that stimulate their imagination to depict real and imaginary worlds. Through this, students realize images come from different sources and develop an awareness of an infinite variety of subject matter for art. It is the way in which ideas are translated to visual statements that is the essence of image making.

Images may range from simple marks to very complex pictures, not necessarily recognizable. Through discussion of such variety, students realize that images can be recorded in many ways and develop an openness to such variety and a sensitivity to differences. The influence of materials and processes is important in image development. Students should develop ease and self-confidence in using materials in unique and interesting ways as they create images.

The power of images to convey an emotional quality, to communicate a message, or to record an event cannot be overlooked. Students may become fluent in the use of visual terms to describe their feelings about images. Image development activities should at all times reflect the student's own ideas and feelings. Through continued exploration of the relationships among making and responding to images and by exploring the impact of materials and processes on images, growth in personal expression can occur.

Images come from different sources:
- theme ideas from a variety of personal sources as a basis for an image (e.g., "My Family," "My Pet," "My Friend," "My Visit");
- focused looking and recording (observations);
- remembering events and recording memories (memory);
- imagining and event (e.g., fantasy, "What if . . . ?");
- stimulated by other art (paintings, drawings, etc.);
- stimulated by other art forms (music, drama, literature, dance, etc.); and
- stimulated by themes in other subjects.

Images can be recorded in many ways including:
- drawing;
- painting;
- print making; and
- textiles.

Images communicate. Make and discuss pictures that convey a mood such as:
- happiness;
- sadness; and
- scariness.

Make images that tell a story (individually or in groups):
- recording a festival or celebration; and
- illustrating a passage from a story.

Materials and Processes

A variety of materials should be made available. Students should be provided with opportunities to explore and manipulate materials and processes that are simple to understand and use. However, changes from one material or process to another should be balanced with the need to allow students to achieve some competency and a feeling of accomplishment within each. Repetition will also allow students to become more proficient in rendering images.

Art materials may be stored in the art area, but should be accessible to other areas. Materials and appropriate storage are provided, techniques and processes are explained and demonstrated so children have the opportunity to explore, experiment, and represent their feelings and ideas. Depending on topic, the teacher may introduce related materials and techniques. Working with a variety of materials and processes in art provides a great opportunity for vocabulary development. For example, specific types of drawing such as continuous line, tone, and contour can be identified. Qualities of continuous lines such as flowing, highly detailed, sensitive, or weighted can be described. Relationships to imagery might also be noted by describing approaches such as "from memory," "from fantasy," or "from observation." Such vocabulary development is essential in verbalizing responses to art.

Drawing. Draw with pencil, crayon, felt-tipped marker, chalk, pastels, and improvised tools such as sticks and Q-tips. Use a variety of surfaces (damp, wet, dry) and paper types (dark marks on light, light marks on dark). Make line drawings, shape drawings, contour and continuous line drawings.

Painting. Paint with a variety of brush shapes and sizes, sponges, fingers, and improvised brushes. Use a variety of surfaces (damp, wet, dry), paper and card types, and colored surfaces. Use a variety of paint methods (stain, wash, resists, tempera, dye).

Textiles. Make paper collages, fabric collages, yarn pictures, and stitching on a plain background. Use a variety of fibers and fabrics, sorting and matching yarns and fabrics. Consider fabric construction, paper weaving, fiber weaving, knotting, and tying.

Modeling, carving, and construction. For modeling, use a variety of materials such as clay, plasticine, and baker's clay. For carving, use materials such as soap, clay, and styrofoam. Construction materials include balsa, cardboard, styrofoam, paper, paper mache, and paper folding to make puppets, masks, dioramas, built environments, containers, stuffed paper forms, and mobiles.

Suggested Art Materials

- Crayons & chalk
- Oil pastels
- Finger paints
- Tempera blocks
- Liquid tempera
- Watercolor paints
- Fluorescent paints
- Easels or table space
- Drying rack or line
- Containers & sticks for mixing paint
- Sponges & straws
- Toothbrushes
- Q-tips & cotton balls
- Empty deodorant bottles for roll-on painting
- String & fibers
- Wood
- Tissue & crepe paper
- Construction paper
- Fabrics & trim (felt, lace, ribbon)
- Gift wrap
- Felt tip pens & markers
- Buttons
- Craft sticks
- Clay & wax
- Molding dough
- Spoons & straws
- Molding hammers
- Work mats
- Objects for printing
- Brushes (thick, thin, round, bristles)
- Foods
- Feathers
- Hole punch
- Scissors
- Fasteners (glue, paste, tape, staples, clips)
- Materials from nature (shells, cones, leaves)
- Boxes & egg cartons
- Junk bits (washers, screws)

Art Safety

Classroom art materials may pose health risks. In some cases, taking precautions will be sufficient to overcome dangers; in others, substitution of materials will be required. Students and teachers should be aware of hazards as well as precautions and acceptable substitutions. Teachers should be aware some art materials can be toxic when inhaled or ingested. Children might put colored pencils in their mouths, for example, or put their fingers in their mouths after handling something toxic. **Children under 12 should not use the materials in the left-hand column below.** Substitute materials are shown on the right .

Hazardous Materials	Safe Substitutes
• Clay in dry forms (the dry power contains silica, which is easily inhaled and may cause silicosis)	• Clay is safe in set form only (wet clay cannot be inhaled)
• Glazes or dyes that contain lead	• Use poster paints instead of glazes
• Solvents (e.g., turpentine, benzene, rubber cement and its thinner)	• Use water-based paints and other materials
• Permanent markers that may contain asbestos fibers or lead from pigments in colored printing inks	• Use only water-based markers
• Some instant paper maches may contain asbestos fibers or lead from pigments in colored printing inks	• Make paper mache from black-and-white newspaper and library or white paste
• Aerosol sprays	• Use brushes, water-based paints, and splatter techniques
• Powdered tempera colors (Their dusts may contain toxic pigments.)	• Use only liquid colors (the teacher can premix the pigments)
• Arsenic, cadmium, chrome, mercury, lead, or manganese pigments	• Adequate labeling is needed on art materials
• Pastels that create dust	• Use crayons or pastels that are oil-based
• Lead solder and stained glass	• Use colored cellophane and black pigment to simulate lead
• Epoxy instant glues or other solvent-based glues	• Use water-based white or library paste
• Solvent-based silk screen, other printing inks	• Use paper stencils and water-based ink

Elements and Principles of Design

The elements and principles of design name aspects of visual organization. They are, therefore, one way of conceptualizing and naming the properties of art. The study of the elements and principles of design should always be related to the development of imagery and/or responding to art. In order to allow students to experience both the depth and variety of visual arts as a social phenomenon and human experience, the elements and principles must not be taught for their own sake or in isolation. Students would then be deprived of the opportunity of discovering alternate ways of thinking about visual art.

In the primary grades, the formal teaching of the elements and principles of design should not be unduly emphasized. Through the sensitive choice of materials and topics, students can develop a growing awareness of line, shape, color, and texture in their own work, in that of others, and in the world around them. Using the elements alone or in combination can achieve the principles of design. Students may also be guided to recognize balance, symmetry, pattern, unity, and contrast in their environment and in art. For instance, a study of shells may introduce the concepts of balance and symmetry and lead to a deepened appreciation of pattern. The elements and principles of design as organized within an image may record, communicate a message, or give an impression of a feeling. The viewer can learn to see these, interpret a meaning, and make a judgment. Such discrimination is essential when verbalizing responses to art.

Elements of Design

Line	Shape and Form	Color and Tone	Texture
Make different kinds of lines: • straight/curved • thick/thin • long/short	Work with simple shapes and forms, e.g., • circles/spheres • squares/cubes • triangle/cones	Use primary colors (red, yellow, blue) and black and white.	Work with textured surfaces such as: • rough • smooth
Make families of lines that express mood and emotion. For example, anger can be expressed using the following kinds of lines: • bold • jagged • spiky	Make geometric and organic shapes. Combines shapes to make families of shapes.	Mix and use secondary colors (orange, green, purple) and black and white. Use light and dark colors.	Compare and contrast families of texture.
	Work with positive and negative shapes.	Mix and use tertiary colors (red-orange, yellow-orange, yellow-green, blue-green, blue-purple, red-purple). Use black and white to change value (tints and shades).	Compare and contrast the textures in the natural and human-made environment.

Principles of Design

Use elements alone or in combination to achieve the principles of:	*Use elements alone or in combination to achieve a mood:*	*Use the elements of design to create:*	*Organize space using:*
• Balance • Contrast • Emphasis • Movement • Pattern • Unity	• Happiness • Sadness • Scariness	• Patterns • Balance • Focal points • Proportion	• Contrast of foreground and background • A specific point of view (bird's eye view, bug's eye view, side-view, and upside-down view)

Responding to Art

It is essential that young children have the opportunity to respond to art as well as to be actively involved in its creation. The two areas of responding and creating are so interconnected that their separation for clarification sometimes appears artificial. Making critical judgments about one's own work or the work of others should be a natural part of an art experience rather than tacked on as a superficial adjunct. Examples of historical and contemporary fine art and folk art can be used to motivate students in their understanding of their own work and their place within the evolution of human involvement with images. Students should be proud of their own cultural heritage and be provided with opportunities to respond to their own work and the work of their peers.

When talking about art in a critical way, the student is making judgments based somewhere on a continuum between fact (e.g., "The picture has many blue lines") and personal opinion (e.g., "I like it because it reminds me of rough waves"). This is where art criticism is useful in directing discussion. Basically, it divides viewing and talking about art into three main phases. Children respond to art by:

1. **Describing images** (own, peers, and that of other artists):
   - List and describe objects and symbols seen in a picture;
   - Identify and describe kinds of colors, textures, lines, shapes, and sizes;
   - Identify and describe methods such as: drawing and painting, print making, textiles, modeling, carving, and construction

2. **Interpreting images** (own, peers, and that of other artists):

- View and discuss images that focus on a feeling or an emotion;
- Describe how an image makes one feel;
- Explain an image in one's own words;
- View and discuss images that tell a story;
- Identify specific elements and principles of design that communicate a feeling;
- Identify specific elements and principles of design that contribute to the image as a whole; and
- Associate images with personal experiences.

3. **Using descriptive and interpretative information to judge images** (own, peers, and that of other artists):

- State and explain preferences for favorite images;
- Explain why an artist's selection of materials, processes, and images is successful; and
- Establish criteria for deciding which works might be included in a display, best own work, etc.

"Children stop when they are satisfied with what they have produced. To ask a child who has stopped working to add to what has been created or to evaluate the item for reworking would violate the child's integrity."

Lila Lasky and Rose Mukerji, Art: Basic for Young Children, National Association for the Education of Young Children, 1980.

The purpose for discussing art is not to make everyone arrive at the same conclusions. The intent is to increase the sum of values and satisfaction a student derives from art. Learning to describe, interpret, and judge art helps the student to become a more involved critic, consumer, and creator of art. In responding to their own work and to that of others, students bring together learning from developing images, the use of materials and processes, and an understanding of the elements and principles of design.

The primary response to artwork should be the child's. Adult responses to art should be directed by the three phases described above. It is important to refrain from making personal judgments about children's work or to interpret it for the child. Children must be allowed to develop their ability to reflect and value their work, free from the powerful constraints of adult opinion.

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Descriptors of Learning in Drama

Early Primary	Later Primary
Attitudes	
The child: • participates in collaborative classroom drama (e.g., works with others in drama, concentrates on the activity, responds to stimuli by creating mental image) • responds to own works and to drama performances (e.g., observes performances which represent a variety of dramatic forms) • makes judgments about the drama (e.g., expresses personal reactions)	The child: • contributes to collaborative classroom drama (e.g., accepts and responds to the images of others, uses the voice to convey mood, emotion, and meaning) • recognizes and respects the emotional and intellectual responses of others (e.g., discusses aspects of the drama which lead to emotional response) • makes judgments about dramatic performances (e.g., considers own responses and those of others when forming opinions)
Skills	
The child: • assumes a role (e.g., takes on a role by responding as if another person) • accepts a role (e.g., listens and responds to others in role) • leads into role by building belief structures (e.g., participates in discussion, imaging, pretending to build a context for role) • discriminates between being in and out of role (e.g., identifies self in relation to others, thinks about self and place within the drama)	The child: • maintains commitment to a role (e.g., uses language and gesture to communicate appropriate thoughts and attitudes in role) • accepts and supports others in role (e.g., develops situation in role by building on own ideas and on those of others) • develops an increasingly sensitive awareness of role (e.g., participates in building the context for role in the drama) • changes language in role, using language appropriate to the role (e.g., includes verbal style and appropriate vocabulary)

Descriptors of Learning in Drama

Early Primary	Later Primary
Knowledge	
The child: • expresses ideas and emotions through body movement (e.g., responds to story through movement, individually and in a group; develops ideas and feelings in a still picture [tableau]) • thinks about the drama (e.g., thinks about own experience within the drama activity, presents own reflections in discussion or through painting and writing) • explores the interconnectedness of dance, drama, music, and visual art (e.g., uses dance, music, and visual elements in drama work)	The child: • interprets ideas and emotions through body movement and tableau (e.g., expresses feelings and ideas through movement, works with others to represent ideas in series of tableau images) • reflects on feelings, ideas, and issues raised in the drama (e.g., considers the points of view raised in the drama, demonstrates change in thoughts and feelings from the drama) • integrates learnings from dance, music, visual art, and previous drama work (e.g., uses dance, music, and visual elements to enhance meaning and enrich the drama)

Descriptors of Learning in Music

Early Primary	Later Primary
Attitudes	
The child: • responds to different cultural traditions and celebrations through music (e.g., uses seasonal songs, celebrates music from cultures in America)	The child: • compares different kinds of music in the community and on public media networks (e.g., selects appropriate examples to share in class, discusses local music event)
Skills	
The child:	The child:
• represents personal vocal sounds using speaking and singing voice (e.g., uses high/low sounds, repeated pitch, creates interest in speech, gains awareness of own accuracy in pitch)	• sings in tune within a comfortable range (e.g., sings in tune within the following range, with emphasis on the upper part of the range)
• performs simple songs, rhythm chants, and fingerplays (e.g., uses song materials to gain awareness of beat and rhythmic and melodic concepts, keeps beat using simple percussion instruments and movement)	• contributes to musical activities both individually and in groups (e.g., expresses mood, tempo, timbre, dynamics, rhythm, and melody in music, uses percussion instruments, movement, and voice in combination)
• explores differences in timbre of instruments and voices (e.g., explores the differences among wood, string, metal, skin, and vocal timbres)	• uses different instruments and voice to create and perform rhythmic and melodic ostinato (e.g., uses repeated rhythmic or melodic patterns to accompany known songs)
• responds to musical phrase, tempo, dynamics through body movement (e.g., observes pattern in music, beginnings and endings, differences in tempo and dynamics)	• expresses musical phrases, variation in tempo and dynamics through contrast (e.g., varies loud/soft or through body gestures, group/solo alternation, etc.)

Descriptors of Learning in Music

Early Primary	Later Primary
Skills	
The child: • represents music through simple notation (e.g., high/low placement on staff, beats, simple rhythm patterns, rests)	The child: • uses appropriate music vocabulary and notation with understanding (e.g., quarter note and rest, time signature, eighth note and rest, etc.)
Knowledge	
The child: • communicates personal ideas through music (e.g., represents personal ideas and images through singing and playing simple rhythmic and melodic instruments) • responds to similarities, differences, and relationships in music (e.g., discusses and responds through movement to repetition in songs, different instrumental qualities, variations in mood) • recognizes that music can express different emotions and moods (e.g., responds to mood contrast through movement, verbal or visual images)	The child: • expresses images through music and sound (e.g., using voice and selected classroom instruments, creates and develops own musical images) • expresses musical elements through their parallels in other art forms (e.g., dramatizes musical sequence, transforms musical form as visual art design or musical contour as dance) • expresses personal preferences in music and appreciates the musical preferences of others (e.g., discusses a variety of music, giving reasons for preference)

Descriptors of Learning in Visual Art

Early Primary	Later Primary
Attitudes	
The child:	The child:
• interprets own feelings about an image (e.g., "It makes me feel sad.")	• interprets ideas and feelings expressed by an image (e.g., "It makes me feel happy because of the bright colors.")
• responds sensitively to a variety of different art forms from own and other cultures (e.g., communicates a willingness to view and discuss a variety of art work)	• responds sensitively and informatively to a variety of different art forms from own and other cultures (e.g., creates own image in response to a festival or celebration)
• evaluates images by stating personal preference (e.g., "I like this one the best.")	• evaluates images by stating preference and giving reasons (e.g., "This is best because the colors create a feeling.")
Skills	
The child:	The child:
• creates images through use of visual symbols (e.g., paints a picture of a person and a house with use of personal schema)	• creates images from different sources (observation, memory, imagination), e.g., creates an observational drawing of a pet
• expresses ideas in visual form (e.g., uses drawings to tell a story)	• expresses ideas and feeling in visual form (e.g., paints a picture expressing scariness)
• creates images inspired by self or others (e.g., constructs a sculpture on monster theme)	• creates image inspired by self or other art forms (e.g., constructs a collage inspired by theme of a poem)
• represents images in different ways (e.g., draws, models, paints, constructs, and uses textile and print making processes)	• represents images in different ways with increasing skill (e.g., draws, paints, models, constructs, textile and print making)
• uses a variety of simple art making tools and materials (e.g., uses brushes and paint to create patterns and pictures)	• uses a variety of simple art making tools and materials appropriately (e.g., cuts paper and shapes with scissors)

Descriptors of Learning in Visual Art

Early Primary	Later Primary
Skills	
The child: • displays skill in manipulating simple materials and processes (e.g., uses brushes and paint to create patterns and pictures)	The child: • displays increasing sophistication in manipulating simple materials and processes (e.g., chooses various paper types that suit image in making a collage)
Knowledge	
The child: • explores elements of design in making or responding to art (e.g., names elements [lines, colors, textures, shapes] and recognizes qualities) • describes images by attending to the subject, sensory, and formal qualities, (elements and principles of design and method and technique) (e.g., identifies and describes textures in a weaving)	The child: • uses and discusses different elements and principles of design (e.g., describes own art in terms of color, pattern, and balance) • describes images by attending to the subject's sensory and formal qualities (elements and principles of design), and method and technique (e.g., discusses implied textures and how they might have been made in a painting)

Descriptors of Learning in Dance

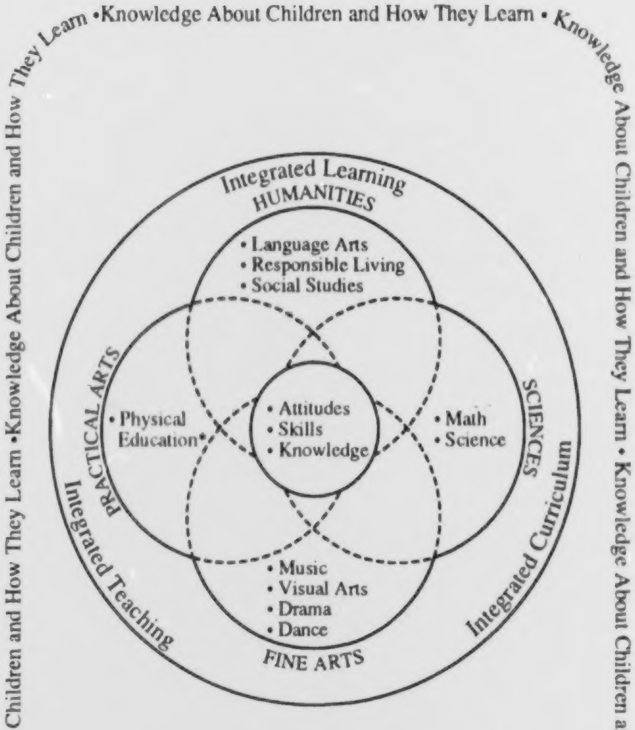
Early Primary	Later Primary
Attitudes	
The child: • participates in dance-making (e.g., selects and extends personal movement to express a feeling or idea) • participates with enthusiasm in movement, shares personal dance work with others (e.g., describes how dance feels, spontaneously shares and discusses personal dance work and the dance work of others)	The child: • creates moods, expresses feelings and personal images through movement (e.g., improvises and refines personal dance compositions to express ideas or solve problems) • observes and discusses dance in the school, community, and on media networks; develops personal preferences in dance work (e.g., attends and reflects upon school dance performance or community recital, watches and discusses a ballet on television, selects preferred movement sequences or styles)
Skills	
The child: • extends own natural movement by using a variety of ways to move (e.g., varies body shape, uses a variety of levels, body parts, personal space) • moves in response to rhymes, verbal, and visual image (e.g., "Move as if . . .") represents image from a poem through dance, moves in response to design elements in a picture	The child: • explores a variety of ways of moving through the elements of dance: body, dynamics, space, relationships (e.g., uses control, personal and general space, variation in dynamics, levels, energy) • responds to movement with verbal and visual images and metaphors (e.g., writes about feeling or character expressed in a dance, makes visual pattern that follows dance form, describes movement)

Descriptors of Learning in Dance

Early Primary	Later Primary
Knowledge	
The child:	The child:
• explores body awareness through movement (e.g., explores weight-bearing and balance using various body parts)	• develops and extends kinesthetic awareness in movement (e.g., develops an understanding of the way in which movement occurs)
• describes similarities, differences, and relationships in dance (e.g., uses contrast, repetition in movement)	• explores and observes form in dance (e.g., creates short dance sequences based on simple musical forms (A B A or A B)
• imitates and repeats observed movement patterns (e.g., remembers earlier movements to use in later sequences, individually or in groups)	• remembers and uses in later dance work observed dance sequences (e.g., uses observed movement sequences in own compositions and ensemble work)
• responds through movement to movement skills vocabulary (e.g., represents correctly, "run backwards," makes choices from general instruction "use a different way of moving across the room")	• describes own work and that of others with appropriate terminology (e.g., discusses movements which are common in everyday life, discusses own dance work and that of others)

Humanities

- **Language Arts**
- **Responsible Living**
- **Social Studies**



Knowledge About Children and How They Learn
Integrated Learning
HUMANITIES
• Language Arts
• Responsible Living
• Social Studies
PRACTICAL ARTS
• Physical Education*
• Attitudes
• Skills
• Knowledge
SCIENCES
• Math
• Science
Integrated Teaching
Integrated Curriculum
• Music
• Visual Arts
• Drama
• Dance
FINE ARTS

* Career education, home economics, and business education are implicit in the primary program

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Language Arts in the Primary Program

Common Understandings

> *"The relationship of thought to word is not a thing but a process.*
> *L.S. Vygotsky, Thought and Language, 1962*

"The goals of the language and literacy program are for children to expand their ability to communicate orally and through reading and writing, and to enjoy these activities. Technical skills or subskills are taught as needed to accomplish the larger goals, not as the goal itself."

"Teachers provide generous amounts of time and a variety of interesting activities for children to develop language, writing, spelling, and reading ability, such as: looking through, reading, or being read high quality children's literature and nonfiction for pleasure and information; drawing, dictating, and writing about their activities or fantasies; planning and implementing projects that involve research at suitable levels of difficulty; creating teacher-made or child-written lists of steps to follow to accomplish a project; discussing what was read; preparing a weekly class newspaper; interviewing various people to obtain information for projects; making books of various kinds (riddle books, what if books, books about pets); listening to recordings or viewing high quality films of children's books; being read at least one high quality book or part of a book each day by adults or older children; using the school library and the library area of the classroom regularly."

"Some children read aloud to the teacher, another child, or a small group of children, while others do so weekly. Subskills such as learning letters, phonics, and word recognition are taught as needed to individual children and small groups through enjoyable games and activities. Teachers use the teacher's edition of the basal reader series as a guide to plan projects and hands-on activities relevant to what is read and to structure learning situations. Teachers accept children's [developmental] spelling with minimal reliance on teacher-prescribed spelling lists. Teachers also teach literacy as the need arises when working on science, social studies, and other content areas" (Bredekamp, 1991, p. 70).

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Dimensions of Language

Language, in its broadest sense, encompasses oral, written, and visual modes. Each mode is receptive and expressive, as shown in the chart below. Visual representation may be non-verbal, (for example, miming a story, making a map, communicating through sign language). It may also accompany speaking (for example, in role play or puppetry), or writing (for example, making a graph, chart, flow chart, map, or web). In a similar fashion, viewing may stand alone (for example, interpreting a mime) or be accompanied by listening (watching and listening to a film) or reading (interpreting a graph, chart, or map).

Children learn language, learn about language, and learn through language in a simultaneous, integrated fashion. Thus, language develops through use and, like thinking, is a process which embraces all curriculum areas.

The Nature and Purposes of Language

As children use language in functional ways, they develop an understanding of what language is and how it works. Experiences should be provided that help children to:

- understand communication is a process of conveying meaning to a particular audience for a particular purpose;
- understand that the language modes are interrelated (e.g., one can express ideas, knowledge, and feelings through speaking, writing, or visual representation; one can receive ideas through listening, reading, and viewing);
- know and understand a variety of language forms:
  - oral (e.g., discussion, interview, report, directions, story telling);
  - written (e.g., list, label, letter, story, poem, script, report);
  - visual (e.g., role play, pantomime, chart, flow chart, map, graph, cluster, web, diagram).
- understand that the language of books is different from the language of speech.

	Receptive	**Expressive**
Oral	*Viewing*	*Speaking*
Written	*Listening*	*Writing*
Visual	*Reading*	*Representing*

In order to understand and use language at a sophisticated level, children must be exposed to appropriate models in a language-rich environment. The two main sources of this modeling are the use of oral and written language by other children and adults, and exposure to good literature and non-fiction. Exposure to good models of oral language is important for the development of speech; written language models are important for developing an appreciation of the language of books (i.e., written language). Both are important for learning and expressing ideas.

Children's Use of Language

A common understanding of how children use language is necessary for those making decisions about children's learning. The following is a description of the ways children use language (Tough, 1983). This serves as a frame of reference when analyzing progress and interpreting learning needs.

Self-Maintaining

- referring to physical and psychological needs and wants;
- protecting the self and self-interests;
- justifying behavior or claims;
- criticizing others; and
- informing others, e.g., "I want a turn."

Direction

- monitoring own actions;
- directing the actions of oneself;
- directing the actions of others; and
- collaborating in action with others, e.g., "You throw the ball to me and I'll throw it to you."

Reporting on Present and Past Experiences

- labeling the components of the scene;
- referring to detail, e.g., size, color, and other attributes;
- referring to incidents;
- referring to the sequence of events;
- making comparisons;
- recognizing related aspects;
- making an analysis using several of the above features;
- extracting or recognizing the central meaning; and
- reflecting on the meaning of experiences, including own feelings.

Toward Logical Reasoning

- explaining a process;
- recognizing causal and dependent relationships;
- recognizing problems and their solutions;
- justifying judgments and actions;
- reflecting on events and drawing conclusions; and
- recognizing principles, e.g., "This box isn't big enough to make a house, so I'm going to make it with blocks."

Predicting

- anticipating and forecasting events;
- anticipating the detail of events;
- anticipating problems and possible solutions;
- anticipating and recognizing an alternative course of action; and
- predicting the consequences of actions or events, e.g., "I'm getting a kitten, and I'll have to get food and toys for it."

Projecting

- projecting into the experiences of others;
- projecting into the feelings of others, e.g., "He's scared his mom won't come."; and
- projecting into the reactions of others, e.g., "I'm going shopping with my mom, and I think she'll buy me something."

Imagining

- developing an imaginary situation based on real life;
- developing an imaginary situation based on fantasy; and
- developing an original story, e.g., "Let's be seeds in the ground. This can be the dirt covering us."

Group-Maintaining

- referring to needs of a group;
- encouraging and supporting others; and
- accommodating the ideas of others.

Hypothesizing

- formulating hypotheses, e.g., "If I don't water my plant, it will die."

Oral Language Development

By the time most children come to school, they have learned the articulation of sounds, grammatical structures, and the social uses of language. They also have acquired a large vocabulary. Attitudes about how and when to use language have been shaped by their environment and influenced by how the people in their lives have used language.

Oral communication plays an important role in all aspects of the primary program. Although speaking and listening often appear in language arts curriculum guides as separate strands, their interdependence is clearly recognized.

Listening

Listening skills affect performance in all language and curriculum areas. Listening is often taken for granted, perhaps because it is integral to everyday activities in all areas of the curriculum. Children's social skills and development depend to a large extent on their abilities to receive and interpret oral cues. Many listening skills are acquired without specific training, but not all listeners learn to use their abilities efficiently. Research has a clear message for educators: children can acquire more effective listening skills and strategies where listening is recognized as an integral part of the curriculum.

Listening must be broadly defined. Definitions must go well beyond simply hearing words. Listening should be considered as part of a broader context which includes speaking, interpersonal relationships, and information processing, rather than an isolated set of skills and strategies.

Listening, like reading and writing, is a process. Just as these processes are recursive, rather than strictly linear, so is the listening process. Both reading and listening involve the intake of material and employ many of the same underlying mental processes. Listeners pick up a wide range of signals from the situational context and are governed by the time context as they cannot go back and review material.

Listening is important and should be taught in school. It is the principal means by which people gather information. Researchers believe, therefore, that more than ever, listening skills must be taught. Television, for example, has made many students passive listeners and has removed the need to imagine the spoken word.

"The adult who stimulates thought and speech in a child, and then listens while he attempts to communicate thought in the shape of words, is the child's most effective educator. The teacher who can stimulate questions on the part of the child, and then listen to him when he tries to think aloud in search of answers to his own questions, is the most powerful intellectual challenge the child can have."

A. Yardley, Structure in Early Learning, 1974.

Listening is directly related to language development, learning, and the total process of human interaction. Learning to listen is learning to understand and appreciate another's point of view, and this, for children as well as for adults, expands perceptions of the world. If children can learn to be active listeners, they can internalize new ideas and thoughts and assimilate them with their own to form new thinking patterns.

Dialogue between teacher and child presents the child with a language and listening model. **The child who is listened to comes to understand that what he or she says is important. Such children will be more likely to listen to others when expected to, especially if they have learned that they can gain useful information from others.**

If the teacher creates an atmosphere for listening by preparing children for the listening experience and also encourages them to feel personally involved, then children will be stimulated to listen. Children who are encouraged to talk about what they have heard will gain some insight as to the purpose of listening. Their interpretation will reflect whether or not they have focused on the intended objectives of the listening activity. Listening activities must have a purpose and a logical context. Listening should be taught as part of communication and interaction between real people.

Speaking

Research confirms what we have long known about speaking: we speak far more than we write, effective speaking is extremely important in social and career functions, and we tend to take speaking for granted. A great deal of research and theory has focused on children's oral language development and on the instructional practices which can enhance that development.

The following research findings have implications for all educators. *Speech development moves from fluency control to effectiveness.* In acquiring any speech skill, strategy, or competence, the first task is to develop familiarity, ease, and confidence through practice and experimentation. Speech development is enhanced by encouragement and acceptance.

"Respect is shown through interactions that attend thoughtfully to what children have to say, through our attempts to understand what is being said and felt, and through our non-judgmental acceptance of those feelings and thoughts."

Selma Wasserman , 1988.

Control and precision develop gradually through modeling and purposeful interactions. As students learn to control language, they begin to make judgments about their efforts and are able to make conscious decisions about speaking strategies. Guided reflection and self-evaluation can enhance development at this stage.

Speech development and cognitive development are closely linked. Both move from the concrete to the abstract, from egocentrism to socialization. Speech and thought complement each other in the development of verbal intelligence; children's inner or private speech enables the development of internalized logical thought.

Speech communication develops, in part, through socialization. Through interaction with peers and adults, children learn to engage in social interaction and to use language for a variety of functions without much systematic attention or instruction.

Speech develops through use in meaningful contexts. Children learn to communicate by communicating. Development of syntax and vocabulary springs from a functional base. Children understand what language is through using language because they understand what it does. **Isolating elements such as phonology (pronunciation), and syntax (grammar) for focused instruction does not foster development; in fact, it may inhibit effective oral communication.**

The development of speaking competence involves the acquisition of cultural communication norms. Children learn the communication roles and norms that prevail in their cultural and social environment.

- During preschool and early school years, the child's language reflects not only pronunciation and grammar, but also the rules of usage which prevail in the home. Thus, children who grow up in different kinds of family environments have very different ideas about what things can be expressed in words and how they may be said.

- During the elementary school years, peer group influences have the greatest effect on speech patterns. While the effects of the school may also become apparent, there is very little chance that the language norms of the education system will prevail in the home and community.

- During adolescence, students become sensitive to the social significance of speech patterns. They demonstrate awareness of the values and prestige factors which adult members of their community associate with various speech patterns, although their own speech continues to reflect the influence of their peer group.

- In the final years of high school, many students begin to modify their speech patterns to reflect the prestige norms of society. Often, at this stage, they speak both standard English and the local slang, depending on their perceptions of acceptability in a given situation.

Talking with Children

Children have a basic need to express themselves and learn about their world. This leads them to communicate with others. They need to talk with other children, but more important for the extension of vocabulary and thinking, are their conversations with adults. In the context of first-hand experiences, children's ideas and views are broadened through discussions with others. Discussions guided by the teacher help them clarify thoughts and express themselves. It must be kept in mind that a child's use of language is directly affected by the topic of discussion and by how he or she feels about being involved in that discussion.

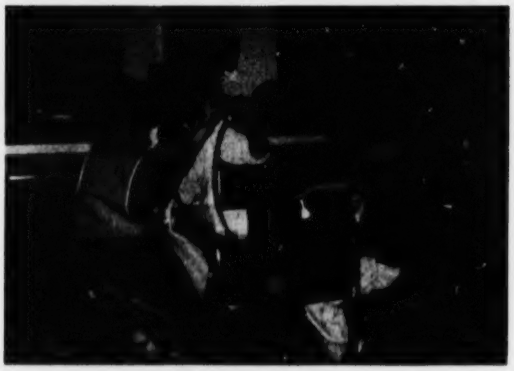
To help sustain and enhance children's language, the teacher must engage them in dialogue, that is, guided talk between teacher and child on an individual basis, in which the child receives the full attention of the teacher. The teacher is able to model attentive listening skills to assess the child's language level and to apply questioning techniques that will extend or foster the child's language strategies. The child's attention can then be directed toward new perceptions and concepts. Having the teacher's full attention shows the child that his or her language and thought are valued, which in turn demonstrates to the child that language is important.

Since a child tends to rely on learned language strategies, the dialogue technique will challenge the child to practice more complex uses of language in positive, non-threatening talk with the teacher. Dialogue that takes place when a child is busy working at a project allows the project to become the focal point of the discussion. The child feels secure in having something concrete at hand to talk about, and the teacher capitalizes on this. (Refer to *Descriptors of Speaking Behaviors* at the end of this section.)

Dialogue Strategies

Dialogue techniques that include open-ended questions stimulate a child into doing most of the talking. The teacher's role is to guide the child's talking so that the exchange is useful to both. The child may view the discussion as a pleasant chat, while to the teacher it represents a valuable teaching and assessing tool. Short dialogues on a regular basis between teacher and child ensure that all the children in the classroom have an opportunity to talk with the teacher. Information can be gathered about the child's language and thinking levels. The teacher who uses dialogue in this way uses the communication techniques of listening and questioning. Use of the following dialogue strategies should promote thinking in the child:

Orienting–orienting strategies are utterances, questions, and comments that set a child's thinking toward a particular topic (and use of language) and invite the child to respond. They give the child the opportunity to make an extended interpretation of the context. Orienting strategies invite the child to think in a particular way (e.g., imagining, predicting, reasoning). The child may not take up the orientation in the response and may choose to respond with other uses of language.



Enabling–These are utterances used to enable a child to move toward an extended interpretation. They help the child to reach further in the direction indicated by the orienting strategy and take three forms:

- *Follow-Through Strategies.* These are utterances that take a child's thinking deeper or wider, following through the direction he or she has chosen. Such follow-through strategies may help the child to give further detail or to give explanations and justifications (e.g., in answer to why and how). They may help the child extend a description or invite reflection. They follow up the child's response and try to help in extending his or her interpretation ("Why did you decide to . . . ?" or "How did you . . .?").

- *Focusing Strategies.* Focusing strategies deliberately focus the child's attention on essential features, such as clues to a fuller interpretation of a picture and are often in the form of questions or comments. They serve to focus the child's attention on a particular part of the experience, something he or she has not taken into account ("Did you notice that . . .?" or "What did you notice about . . .?").

- *Checking Strategies* Checking strategies help a child to check his or her statements, to think again and to fill in information that is needed and has been omitted (e.g., "Does that mean . . .?" "What do you think about that?" "Why do you think this will work?").

Informing—These strategies are the means by which a child is given explanations and facts as needed. While orienting and enabling strategies are used to help the child express ideas, informing strategies provide information and ideas at a time when the child seems ready to receive them or when he or she needs them to complete some idea or to resolve a problem. They are the teacher's contribution to the interpretation that is being built up and are intended to offer the child a new way of looking at the situation, to give an extension to the child's own interpretation, or to offer some basic facts. Some teachers may be reluctant to contribute in this way, feeling they are preventing the child from thinking independently. It is important that teachers not do all the talking and but listen; children need both information and a model upon which they can base responses, thus teachers should be prepared to offer them appropriate points ("Have you thought about . . .?").

Sustaining—These strategies are comments that support children and assure them of the attention of their audience (e.g., "Really," "Good," "Go on," and "What else?"). Often the strategies are non-verbal, consisting of gestures and facial expressions–a nod of the head in agreement, a smile of encouragement, the sound of appreciation, and the look of surprise. These strategies assure children of the teacher's interest and attention, and encourage them to complete the interpretation. Sometimes they are repetitions of what a child has just said, with an intonation indicating an expectation that he or she will continue. They also provide a pause in which the child can think further.

Concluding—These are strategies intended to conclude the dialogue or to bring a particular topic to a close before reorienting the dialogue. It is essential to leave children with a feeling of satisfaction that their efforts have been recognized or their difficulties understood. Examples include statements such as, "That's interesting, but I must go and see what Tommy's doing now." or "I've enjoyed listening to your story, Tim. Please put the blocks away now." or "Help me remember to look at your picture when you're finished."

Concluding strategies are not only strategies that bring the whole conversation to an end, but are also transition tools to new topics. Once a new topic has been introduced, an orienting strategy will redirect the dialogue. In this way, the teacher leads from the conclusion of one topic and opens up dialogue in a new direction.

The objective for dialogue is changed. Practicing these strategies will help teachers, parents, and others to communicate more effectively with children.

The Developing Reader and Writer

Meaning is central to language. Speaking, listening, reading, and writing all involve the construction of meaning. Written language should be taught as the construction of meaning, rather than decoding or encoding speech. Reading and writing are learned most effectively when they are integrated with each other and with oral language. Reading, writing, speaking, and listening are mutually reinforcing; one enhances the other.

Children learn to read and write through the active use of written language in meaningful contexts. The teaching of discrete skills should be taught within this context as well rather than in isolation. Written language develops in a series of successively accurate approximations. A child's written language may differ from that of an adult or from conventional form. However, the child's written language is a developmentally appropriate approximation, rather than "wrong."

Children have a strong desire to master their environment. They select, interpret, and integrate information about their world; they make predictions about how the world works. Progress in literacy does not come through advances in deciphering and copying; becoming literate involves the process of appropriating and constructing knowledge of literacy. This reflects a long developmental process from the children's initial conception of print. Considerable variations occur and can be observed in children's literacy development when they begin school.

We need to recognize that children begin building their emergent reading and writing behaviors before coming to school and continue to develop such behavior with appropriate experiences during the primary years.

A school child's first experiences with the printed word should bring a sense of pleasure and achievement. Language in its spoken, written, and printed forms is as much a part of the child's environment as are water, clay, paint, paste, and paper. We need to commend children's exploration of their environment as well as their interest in and exploration of printed and written words and letters.

The teacher has a vital role in developing a "set for literacy." The focus needs to be on helping children acquire knowledge, skills, and attitudes of literacy through meaningful experiences. To participate in the literate world, the child must come to understand the many connections between language, writing, and reading.

Literacy is a developmental process, with identifiable stages exhibited by children as they become independent readers and writers. The rate of progress varies for each child. Literacy development begins almost as early as oral language in literate societies such as ours. Before children come to school they are surrounded by print in their environment and see adults reading and writing.

During the primary years, most children successively exhibit the characteristics of preconventional, emergent, early, and fluent readers and writers. Occasionally, a child may begin school as a fluent reader or writer and enter the expanding stage of development during the primary years.

Learning to read is not something that happens after a stereotyped readiness period in first grade or kindergarten. Learning to read is the job of a lifetime. Two- and three-year-old children who are read to a lot begin their reading careers early. The day a child gets hold of a sentence pattern that works for him and reads it into the telephone directory or the Montgomery Ward catalog, or his daddy's newspaper at night, is launching himself on his reading career. He, in truth, is finding joy and power in the pages of a book, a psychological posture that every successful reader continuously brings to each reading encounter, knowing, subconsciously if not consciously, that he can make a go of print. This is the first and foremost reading skill.

Bill Martin, Jr.

Stages of Literacy Development

The stages of development in reading and writing continue throughout life. The view of the child in the primary program is one of a developing reader and writer, speaker, and listener. Regardless of the stage a child is in, the learning environment supports his or her progress within that stage. The teacher is familiar with the characteristics of reading and writing development and, therefore, knows when and how to support movement to the next stage when the child is ready. All of the child's reading and writing behavior is viewed within a developmental framework.

The following is an outline of the characteristics of typical stages of literacy development. Though the names of stages may differ from other sources, the characteristics appear consistently throughout the literature. **Information about these stages and how they are manifested in children's behaviors is essential knowledge for the teacher. Many readings in *References and Resources* present similar information.**

Emergent Literacy—usually develops in the preschool and/or primary years.

Reading and writing development occurs much earlier than was formerly recognized. The concept of "emergent literacy" has replaced "reading readiness" in describing early literacy development. Children discover functional, linguistic, and graphic principles of written language simultaneously through active engagement with print rather than as discrete skills. Furthermore, many children are able to identify letters, numbers, and words as a task unrelated to reading or writing. The chart below highlights the key research findings about emergent literacy in contrast to the earlier "reading readiness" perspective.

Reading Readiness	Emergent Literacy
• Instruction in reading begins when children have mastered prerequisite skills. • Likelihood of success is determined by reading readiness tests. • The instructional focus is reading; writing is delayed until children have started to read. • Formal rather than functional aspects of reading are stressed. • Sequenced mastery of skills forms the basis of reading instruction. • Children pass through a scope and sequence of readiness and reading skills. • Progress is monitored by periodic formal testing.	• Literacy development begins long before formal instruction. • Listening, speaking, reading, and writing are developed concurrently and interrelatedly. • The functions of literacy are as integral a part of learning literacy as the forms. • Children learn about written language through active involvement in reading and writing, exploring, and interacting with others. • There is a purpose for skill acquisition within a meaningful context. • Children's learning can be described in terms of general stages, however, children can pass through these stages in a variety of ways and at different ages. • Progress is monitored by ongoing observations and analysis of writing samples and reading behavior.

In the early emergent stage, children come to view literacy (reading and writing) as something that people do. Although they may know that books contain stories, their reading attempts are governed by pictures. They do not yet realize it is the print that conveys the message. Reading attempts initially involve labeling and commenting on the pictures. Later on, the child will tell a story in oral-like language. Finally, the attempts include "book language" as the child uses written-like language to tell the story from the pictures.

Writing in the early emergent stage is characterized by writing scribbles, letter-like shapes, and imitative cursive writing. Children begin to relate letters to speech segments. The child does not relate letters to phonemes (letter sounds). Children may or may not intend to convey a message when they write.

In the later emergent stage, readers know language can be recorded and revisited. They understand the text as well as the illustrations convey the message. Children try to read the print using pictures to predict the text. They may role play as a reader, relying on memory to reread familiar stories. Children in this stage may be able to read some words, such as their own name and familiar environmental print.

Young children's writing reveals the development of their insights into the way written language works. During the emergent literacy stage, children discover that the letters of the alphabet are related in particular ways to speech sounds. Initially, one letter represents one syllable, usually the beginning consonant. For example, "S" may represent "snake" and "DD" may represent "daddy." Vowels which represent sounds seldom make an appearance in this stage.

Young children experiment with many functions of written language in activities such as dramatic play, making shopping lists, writing checks, and preparing menus. Through the use of language and "pretend" writing, children create written language. As children show growing interest in having thoughts written down, they may ask an adult to record the message. Later, children may trace, rewrite, or begin to "write" independently using functional spellings. They discover that the writer's intentions are expressed through specifically arranged symbols that they are related in arbitrary but precise ways to formal characteristics of speech and that the reader can receive a message. This is a tremendous cognitive attainment for the young child.

Early Literacy—occurs as children move into the later primary years.

The child in the early literacy stage shows increasing knowledge of print conventions. The child makes greater use of context for predictions, which are more accurate than in the emergent stage. The child has a basic sight reading vocabulary of functional words and knows the relationships between the most common sounds and letters. At this stage, the child reads slowly and hesitatingly, repeating words and phrases.

As a result of repeated exposure to and positive involvement with print, children make the transition to visual spelling strategies. Functional spellings are gradually replaced by conventional spellings. Now the child uses conventional spacing between words and shows awareness of the use of upper and lower case letters. Children write about topics of personal interest to them. They write letters, stories with a character, research reports, notes, labels, and poems. They compose sentences that make sense; they begin to develop a sense of beginning, middle, and end of a written text. They can arrange ideas in a logical sequence; they can read their own writing.

Fluent Literacy—may occur in the later primary years and/or in the years following.

The fluent reader begins to consciously set his or her own purpose for reading and reads books for interest and information or because they are written by favorite authors. The fluent reader uses strategies of predicting, sampling and confirming, and self-corrects miscues quickly, confidently, and independently. Now the rate of reading increases, and the child prefers to read silently.

The fluent writer consistently writes pieces that are a full page or more. Texts are easily understood as the child uses more of the conventions of adult writing. Ideas flow freely and language is not restricted or stilted. Writing is used to think, to create ideas, and to communicate purposefully to others. Fluent writers use some of the conventions of adult writing. They are aware of capitals and periods and can use classroom aids to assist or check spelling.

Expanding Literacy —usually occurs after the primary years, in later elementary and secondary years.

The expanding reader is "hooked" on books. He or she understands that authors and illustrators have individual voices and styles, is aware of a variety of genres, can identify literary elements, and relates aspects of literature to personal experiences in thoughtful ways. Reading is utilized for a variety of purposes; comprehension occurs at different levels (literal, influential, and critical). The expanding writer writes with personal voice and style for a variety of purposes, in a variety of genres.

The Development of Writing

Learning to write is a language development process involving refinement and control that proceeds from part to whole through a series of successive approximations.

Research indicates that learning to write:
- is a form of language development rather than the acquisition of perceptual motor skill;
- is a process of acquiring communicative competence in written form;
- is an active process of hypotheses-generation, with increasing conventionalization, refinement, control, and effectiveness;
- is strongly influenced by conventional forms;

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- occurs on many fronts at the same time;
- involves both developmental patterns or trends and individual differences; and
- is enhanced by functional and purposeful use, through experimentation and risk-taking, from having audiences respond to the meaning of what is written, and from demonstrations of what is involved in becoming a writer.

Key Markers of Writing Development

1. Differentiation of scribbling between drawing and writing.

Writing scribbles take the form of cursive writing in our culture (as opposed to the shape of scribble in, for example, Arabic). This differentiation indicates that children are acquiring a "gestalt" or overall impression of the form of written language, with a focus on the sense of the whole rather than the particulars. It is analogous to the speech intonation patterns of toddlers, sounding like language but not made up of words. The beginnings of written language are much earlier than making letters; in the same way that oral language begins before baby's first words.

2. Development of linearity, symmetry, and directionality.

Writing-like behaviors ("pretend writing") such as left-right directionality help us to see that a child is acquiring procedural knowledge related to writing and reading.

3. Development of letter-like shapes, then letters.

This development demonstrates the influence of environmental print. In particular, young children form capital or capital-like letters. Once again, gross features or approximations develop before the form becomes stable. At this time, children do not associate the letters with particular sounds, often writing to make written objects without intending to represent a particular message. A child may ask, "What does this say?"

4. Making "words."

Children use a general rule strategy to "make words," using approximately 3-6 letters and avoiding too much repetition of a particular letter. Often, children use the letters of their own name in various combinations.

5. The syllabic hypothesis.

This is a specific example of one-to-one correspondence. Children use one letter to represent one syllable, often a whole word. Initially, the syllabic hypothesis is used to justify production, later to regulate it, and finally to plan ahead. Children first represent concrete nouns. The last words to be represented in a message are articles and other function words.

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6. Functional spelling

Functional spelling indicates a child understands that writing can be "talk written down." An understanding of the relationships between letters and sounds is developing. Initially, one letter may represent a whole word (for example, "B" for birthday), but soon the child realizes speech can be segmented. Children frequently use a letter-name strategy to create spelling. A typical sequence begins with consonants only followed by inclusion of long vowels. Other vowel sounds, short vowels for example, are the last to become conventionalized. Many children use short vowels in non-conventional ways because they associate the vowel sound with the vowel name that feels closest in the mouth (for example, short "e" with "a"). Research indicates that encouraging functional spellings frees children to write more substantively in the primary years.

7. Segmentation.

Children use a variety of techniques to segment words. The most common of these is the use of the dot or the dash. These marks give us insight into children's developing sense of word boundaries. As children learn to read, they come to realize that our writing system utilizes spaces to separate written words.

8. Punctuation.

Although the period is the most frequent punctuation mark, it is often not mastered first. Many children use exclamation marks, quotation marks, commas, and apostrophes in their early writing. Many overgeneralizations occur, for example, using periods at the ends of lines rather than to end sentences. This is often the result of reading material to which children are exposed; for example, some basal readers or teacher-made charts that place one sentence per line rather than utilizing continuous text.

Learning Through the Language Arts

Meaning is central to language. Writing and reading, the process of constructing meaning with written symbols, involve the coordination and integration of complex cueing systems.

Children will work to pull thoughts and words together as they listen speak, read, and write, in an attempt to make sense of their perceptions, thoughts, and feelings. All of these language activities, whether for composition or comprehension, are thinking activities and can be understood as developmental processes.

For example, both composition and comprehension require that the student move from the known to unknown, supported by a bridge of words. Both require the child to translate thought to words and words to thought.

Fluent, clear writing expressed with a sensitivity for language and based in good thought, can be corrected if it contains errors of usage, punctuation, spelling, or grammar. The focus for young children is on making connections between thought and print .

Reading is essentially a dynamic thinking activity in which the reader interacts with the text to create a meaningful understanding of the writing. Good readers seek to identify meaning rather than isolated words. In the primary classroom, skills are learned in context and for a purpose.

Teachers need to be concerned with both skills and processes; there is not real dichotomy. Skills are essential for developing language competence, but they are not ends in themselves. Processes are crucial, but serve only to accomplish a purpose. It is important that skills be kept in the perspective of larger strategies with which the student makes meaning of print.

Children must be taught to monitor their own processes. As they are reading, they may recognize they are not understanding and should apply a strategy to gain comprehension. They can also monitor their own writing process, avoiding proofreading as they draft their thoughts.

These processes integrate many skills and strategies. Children experience success though opportunities to read and write supported by thoughtful and exemplary questioning, time for reflection, encouragement, and helpful assessment.

The goal of the language arts program is the understanding of reading and writing. Since children learn what reading and writing are from the way they are taught, it is important that instruction stress comprehension and meaning right from the beginning. Young children focus on meaning as they make sense of their world, and this "sense" must be used to help children master the conventions of print. Children's knowledge of semantic and syntactic information can reduce the need to attend to every piece of graphic information on the page.

In order to teach for understanding, the language arts teacher must be informed about the most promising teaching practices in the areas of:

- reading/writing connections
- reading comprehension
- reading to children
- grouping for learning
- oral reading
- independent reading
- cueing systems
- viewing and visual representation

Reading/Writing Connections

Reading influences writing and writing influences reading. For example:

- The type and amount of reading material to which writers are exposed influences the choice of topic, genre, vocabulary, style, and attitude.
- Children who are taught to read with basal readers with stilted language and format produce writing that is also stilted in language and format.
- Children who write know text makes sense and look for meaning in reading.
- Writing has been found to contribute to knowledge of how oral and written language are related and to growth in spelling, phonics, vocabulary development, and reading comprehension.
- High levels of reading comprehension are attained when reading is approached with some of the strategies that writers use, for example, activating prior knowledge, formulating ideas, reflecting, and revising.
- Writers use reading in an integrated fashion, reading their own writing, reading other materials, and using knowledge they have acquired through previous reading.

Given that reading and writing develop together these principles should be followed:

- Children learn to read by writing and to write by reading. Writing experiences begin along with reading experiences.
- Writing strategies should be incorporated throughout the reading process, from pre-reading to reflection upon the reading.
- Well-written materials should be selected for reading instruction.
- Students should read their writing to others.
- Writing and reading comprehension both improve with instruction on story structure.
- Reading and writing should be linked with talking. Purposeful, child initiated talk is essential to reading and writing development.

Reading Comprehension

Comprehension is a dynamic, interactive process of constructing meaning by combining the reader's prior knowledge with the information in the text and within the context of the reading situation.

Prior knowledge is the major determinant of reading comprehension. When we read, we bring meaning to the print in order to get meaning from it. Readers need knowledge of the content, structure of the text and effective strategies for reading.

Comprehension Strategies

Good readers use two kinds of strategies: 1) for activating prior knowledge, and 2) for self-monitoring comprehension.

Research indicates the strategic reader:

- understands that different purposes and different texts require particular strategies;
- identifies the task and sets purposes;
- chooses appropriate strategies, e.g., predicting, rereading, summarizing, looking for relationships;
- monitors comprehensions, including:
  - knowing whether one is comprehending,
  - knowing what is being comprehended, and
  - knowing how to self-monitor comprehension whenever meaning is blocked.

Some of the research implications for the teacher include:

- choosing well-written material that is clear and has effective structure;
- using strategies that activate prior knowledge such as clustering and webbing;
- teaching about the structures of written material;
- accepting a wide range of responses in comprehension; and
- engaging in reading for a purpose which makes sense to children.

Reading to Children

Reading to children is probably the best way to help them to become literate. In addition, talk surrounding the text develops knowledge and language and encourages reflective thinking.

Reading to children develops:

- literate orientation;
- awareness of the nature and functions of print;
- background knowledge and concepts;
- understanding of the structure of stories;
- ability to cope with decontextualized language;
- vocabulary and grammatical development;
- learning of information necessary for decoding;
- reflective, abstract thinking that is necessary for success in school; and
- love of reading.

In the home, reading should be informal and enjoyable. Children who are introduced to literature in their parent's lap associate print with positive images that last a lifetime.

When reading to children:

- begin early and continue well past the time they have learned to read;
- read at least once each day and preferably several times each day;
- select materials of high quality which are beyond the child's reading level;
- talk about words and their meanings as they relate to a story;
- keep interactions during reading as natural as possible. Discussion, prediction, and speculation during the reading are appropriate ways to encourage the reflective thinking necessary for advanced literacy.

Being read to daily helps children develop a positive attitude toward books and reading. Discussion of the ideas and language used in books helps raise their awareness of the variety and uses of language. The experience of enjoying literature becomes an intrinsic pleasure for children if the interaction between them, the reader, and the literary selection captures their imaginations and is viewed by them as a happy interlude with the spoken and written word.

"In the limited time in which children have to be a child, we want to give them the very best books available. The adage of 'the right book at the right time' still holds true. Most children's books have to be read at the appropriate age and stage in the development of a child or they will never be read. Currently, there are over 40,000 children's books in print. It is possible that a child may have read widely and never have read a significant book."

Charlotte Huck,
Children's Literature in the Elementary School, 1987.

Experiencing Literature and Non-Fiction

Since the language in books is different from the language of speech, children need to experience many literary forms such as poetry, plays, songs, and stories. Hearing good literature introduces children to vocabulary, language forms, and ideas that may not occur in their everyday lives. Literature offers opportunities to become emotionally involved in fantasy.

Children also need to hear and see a variety of non-fiction forms such as labels, directions, letters, and information books. Children who have been read to in their early years develop a familiarity with language of books and learn both pleasure and information can be gained through reading. Children who have experienced a wealth of good literature and non-fiction forms are highly motivated to learn to read and write and are, therefore, more successful in school.

A rich body of literary work reflecting one's own culture, the pluralistic American experience, and the world-at-large provides a never ending source of material for experiencing and responding imaginatively to literature. Selections with literary merit also provide powerful motivation for reading as children are made aware that reading is a pleasurable and worthwhile activity.

Children will become readers if their emotions have been engaged, their imaginations stirred and stretched by what they find on printed pages. One way to make this happen is through literature, imaginative literature in particular, where language is used with intensity and power in a direct appeal to the feelings and imagination. **Literature is the most effective "reading program" ever devised** (Sloan, 1984).

If children are to experience the full impact of literature, teachers must plan a program of literacy experiences which is much more than a list of unconnected poems and stores. Such a framework provides the means of unifying and integrating all literacy experiences. The systematic study of wisely chosen selections of poems and prose will not only enrich children's lives, but enable children to realize the personal satisfaction which comes from reading.

Responding to literature is a complex process which is developmental in nature. It is influenced by factors such as the personality, expectations, cultural background, age of the reader, and quality of the selection. Young readers respond primarily to content, and more mature readers can respond to rhetorical elements. We can help children develop their ability to respond with increasing sophistication by attending to the nature of their present response, and by exposing them to increasingly demanding literature.

Literature which has familiar settings has a special appeal as children recognize that writing can be about places like theirs or people like them. Further, seeing people of other cultures in familiar settings increases multicultural awareness.

We are bombarded daily with non-fiction content–signs, captions, mathematical problems, newspaper and magazine articles. As children progress through school, they will be required to use language in the content areas. Reading non-fiction may be their major source of knowledge about the world. Children in the primary years should experience a wide variety of non-print forms and should have opportunities to learn how to locate and use information. Opportunities should be provided for children to experience a variety of literature and non-fiction forms:

Expressive (personal)	Journal, learning log, note, letter, diary, dialogue, opinion, invitation, thank you note, interview.
Narrative (story)	Folk tale, fairy tale, animal story, fable, adventure, legend, cumulative and repetitive pattern story, contemporary realistic fiction, fantasy, cartoons.
Poetic	Nursery rhyme, rhythmic verse, alliterative and rhyming poems, limerick, free verse, word play, riddle, child created poem, cinquain, song.
Dramatic	Mime, puppet play, acting out stories, improvisation, role play, fingerplay, choral reading, skit, scripted play.
Expository (non-fiction)	Sign, label, caption, list, directions, instructions, description, report, recipe, explanation, advertisement, newspaper article, magazine article, persuasion or argument, diagram, graph, documentary, interview.

Literature plays a vital role in adding delight and wonder to children's lives, providing alternative perspectives of life and increasing appreciation of language. Literature is an art form that presents possibilities of human experience through powerful and effective language. One of the main values of reading or listening to good literature is its ability to educate the imagination, the creative and constructive part of the mind. Therefore, literature is worth studying for its own sake, and literary selections can provide a major part of the content of a reading program.

Grouping for Learning

Heterogeneous grouping is the most effective way of raising reading achievement levels. Teaching methods which are often reserved for high ability children are best for all children (see *Guiding Principles*). Practices which are effective regardless of ability level should be given more attention than those which widen the gap between levels of achievement. For example:

Increased Attention	**Decreased Attention**
Reading for a purpose	Decoding tasks
Silent reading	Round robin oral reading
Reading literature and content area materials	Reading instructional materials
Whole group language activities	Seat work for grouping purposes
Interaction between writing and reading	Writing and reading treated as separate activities
Semantic and syntactic cues to target words	Graphophonic cues to target words
Opportunities for learning	Behavior management

Oral Reading

Children of all ages need to be engaged in extended silent reading. Oral reading is of most benefit as an assessment tool when checking for fluency and cueing strategies. Round robin oral reading is ineffective as an instructional technique for developing fluency and comprehension.

When using oral reading as an instructional technique it is important to keep in mind:

- children should read the text independently before they have to read it orally;
- readers of all ability levels should spend more time reading silently than orally;
- readers of all ability levels should be provided with more semantic prompts and less graphophonic prompts;
- instruction should focus on improving fluency, rate, and comprehension;
- repeated reading of familiar materials is more effective than reading new material aloud each day;
- the value of oral reading depends to a great extent on the way the teacher deals with errors; and
- oral reading cooperatively with a partner is more effective than "turn reading."

Oral reading as an assessment technique is beneficial. An analysis of oral reading miscues provides insight into the strategies a reader uses. A progressive audio tape of oral reading accompanied by a miscue analysis is also a valuable record for the child, parent, and teacher.

Independent Reading

The ratio of independent reading for avid and less frequent readers is more than 20 to 1. Thus, avid readers are getting considerably more practice in reading and tend to become even better readers.

The benefits of independent reading are clear . . .

- Beyond the primary level, the majority of new words acquired by children are learned incidentally through reading books and other materials.
- The amount of time children spend reading independently in and out of school is related to gains in reading achievement.
- The frequency with which students read in and out of school depends upon the priority classroom teachers give to independent reading.
- Children in classrooms with libraries read more, express better attitudes toward reading, and make greater gains in reading comprehension than children who do not have such ready access to books.

However, the time spent in independent reading is small . . .

- On the average, only eight minutes per day is spent in independent reading at the primary level and fifteen minutes in the intermediate levels.
- Children spend considerably more time in school reading periods doing work sheets and other reading practice exercises than they do reading.

- Teachers assign more practice exercises to lower ability readers than to better readers which reduces the opportunities for poorer readers to read independently.

- For the majority of children, independent reading at home occupies less than one percent of their free time.

Since there is no question that independent reading influences reading achievement, we must provide time in school for children of all ages and abilities to read books of their own choosing.

"Setting aside time for reading with us teachers as reading models, must be a priority in all classrooms. For some students, school is the only place where quiet reading time and the possibility of developing the reading habit is conceivable" (Routman, 1991).

Some strategies for making independent reading of self-selected books a priority are:

- Provide in class time for the teacher and students to read quietly (older students will read silently, younger students will be talkative).

- Spend less time on work sheets and skill sheets and use independent reading as an alternative.

- Make reading independently an expectation rather than an option.

- Design a program for students to read voluntarily outside of school as part of a balanced reading program.

- Develop a classroom library that is accessible and interesting. Children must have books at their fingertips if independent reading is to be part of a successful program.

Selecting Books for Independent Reading

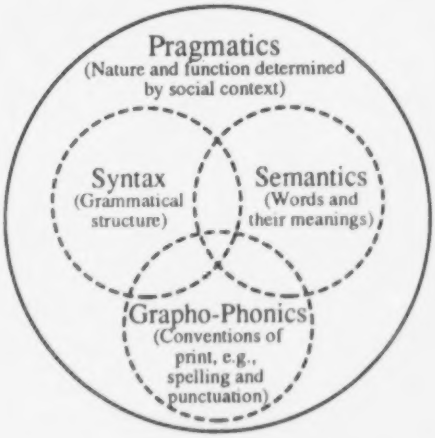
Children should be encouraged to select books from a variety of sources. The teacher can help with selection by tuning into the child's interests, introducing an author, and providing children time to share books with each other. Classroom time for children and teachers to give book talks may help expose children to new topics and authors.

"While [children] are free to choose what they like, they are also guided to read a wide variety of literature and to choose books at their independent reading level. Independent level means that students recognize 95 percent of the words used in a selection and comprehend 90 percent of the content. This is the easy reading level, where students read without teacher or parent help. Reading lots of books at this level promotes comprehension, vocabulary development, fluency, and overall reading facility" (Routman, 1991).

Children should also be allowed to explore beyond their independent reading level. This is part of learning the selection process. Teachers and parents must stay in touch with children, talking about the books they are reading, and exposing children to good literature. This will help children to become proficient at selecting appropriate materials.

Cueing Systems for Reading and Writing

Reading and writing involve the coordination and integration of four cueing systems: pragmatics, semantics, syntax and grapho-phonics. The diagram below illustrates the dimensions of written language.


Pragmatics
(Nature and function determined by social context)
Syntax
(Grammatical structure)
Semantics
(Words and their meanings)
Grapho-Phonics
(Conventions of print, e.g., spelling and punctuation)

Writing is a process of composing with written symbols. Like reading, it involves the coordination and integration of four cueing systems: pragmatics, semantics, syntax, and grapho-phonics. The following sections elaborate how writers and readers integrate the cueing systems to construct meaning as they write and read.

The Process of Writing

The Context of Language (Pragmatics)

Young children usually write the way they talk. They do not yet understand writing is not simply talk written down. In the early stages of writing, it is important to build on the child's knowledge of oral language, to bring the child's oral language to the printed form, for example, through language experience activities and expressive writing. However, in order to build children's pragmatic knowledge of written language, it is important to bring print to the child.

The teacher may:

- immerse the child in functional written language and provide opportunities to use writing informally in the course of daily activities such as the calendar, sharing time, signs, labels, invitations, thank you notes, announcements, and notes home; and
- read a wide variety of literature and non-fiction to children and encourage them to write in those genres or forms (for example, read fairy tales to children and provide opportunities for them to retell or write their own fairy tales; read letters to children and provide opportunities for them to write letters).

The Meaning of Language (Semantics)

Semantics is the major focus in the writing process. As children write to create and express ideas, as they read and re-read their own writing and respond to the content of each other's stories, they focus on the semantic aspects of print. The teacher may:

- extend children's background experiences by:
  - involving them in as many real experiences as possible, such as field trips, cooking, and other hands-on activities;
  - providing vicarious experiences when real ones are not possible, for example, by reading to them or by using films, video and audio tapes, drama, and discussions.
- discuss these experiences and have children write about them as well as provide opportunities for children to share their writing.
- encourage both collaborative and independent writing to provide children with opportunities to practice composing meanings in print.
- give purposes for writing, such as to give directions, record ideas, explain events, and entertain.
- before writing, have students recall and share what they know about the topic, imagine and create images, build their knowledge, and extend their vocabulary.
- help children clarify and extend their ideas by enlisting a variety of ways for them to share and respond to each other's writing.

The Structure of Language (Syntax)

Children need opportunities to write in a variety of syntactic patterns. Pattern writing, sentence building, and extension activities provide opportunities to play with and extend syntactic knowledge. However, it is important not to overuse such activities. It is critical to provide children with opportunities for free writing (e.g., a journal) which allows children to express themselves in their own natural way. The teacher may:

- provide literature with repeated syntactic patterns, such as pattern books and poetry, and encourage children to write with these patterns; and
- establish daily situations for children to write language for different purposes–to tell stories, to explain, to persuade, to ask questions, and to give directions.

Conventions of Print (Grapho-Phonics)

Writing is probably the single most important activity for focusing on and practicing letter formation (printing and cursive writing), letter-sound relationships (for example, phonics and spelling), and punctuation. The teacher may:

- Provide many opportunities for writing, and encourage children to use functional (developmental) spellings. As children attempt to match their spoken and written language, they extend and consolidate their awareness of letter-sound relationships.
- Use alphabet books. Read such books to the children and provide opportunities for reading and writing alphabet books.
- Encourage children to develop personal word lists, such as word families and words that sound the same; and
- Have a variety of dictionaries available.

Writing should involve a process approach and should build skills in context. Children should have opportunities for:

Prewriting
- generating ideas

Drafting
- constructing personal meaning
- shaping ideas
- discovering what ideas mean

Revision (editing)
- talking and thinking about ideas
- practicing effective communication
- clarifying and extending meanings

Proofreading
- attending to conventions of print (spelling, punctuation, etc.)

Publishing
- producing "the masterpiece"

Presenting
- sharing and celebrating the writing

Refer to the end of this section on language for *Descriptors of Writing Development.*

The Process of Reading

Reading is the process of constructing meaning from written text. It is an active process involving the constant interaction between the mind of the reader and the text. While reading, the reader predicts, samples, and confirms hypotheses. Reading is a complex process requiring the integration and coordination of many interrelated sources of information: context, meaning, structure, and sound/symbol relationships.

Understanding Context (Pragmatic Cues)

The reader uses pragmatic cues while considering the context in which the text occurs. For example, the language one would use in a formal situation is different from that in an informal situation; the language of science or nonfiction is different from the language of literature. When readers use illustration style to predict a book with photographs contains factual information and a book with cartoon illustrations contains a make-believe story, they are demonstrating the use of pragmatic cues. Effective readers have a wide background of experience with language in many situations. To expand children's knowledge of written language in its various uses, the teacher may:

- immerse children in literature of a variety of genres and styles;
- read a wide variety of non-fiction to children; and
- discuss the information readers receive from non-print cues, illustrations, story pattern and structure, and size of the book.

Understanding Meaning (Semantic Cues)

Readers construct meaning when they relate the information in the text to what they know. When a text contains facts new to the reader, the information can be integrated with what is already known. The semantic context consists of the meaningful relations among words and ideas. Self-correction when the text does not make sense is an indication of the child's effective use of semantic cues. Effective readers have extensive background knowledge of a wide range of topics and related language. To build children's experiential and language base and to encourage reading for meaning, the teacher should:

- extend children's background experiences and involve them in as many real-life experiences as possible;

- discuss experiences to extend the children's understanding and related vocabulary;

- relate the experiences to print, by recording the experiences and reading related texts to the children so they will see reading as both enjoyable and functional;

- encourage extensive independent reading to help build children's experiences with a range of topics;
- give purposes for reading, such as to follow directions, to gain information, to enjoy the writing, and to respond;
- before reading, have students recall and share what they know about the topic to build their knowledge of the concepts and vocabulary in the text before they read it;
- encourage predictions before and during reading to promote reading for meaning;
- help children clarify and extend understanding by enlisting a variety of ways to respond to reading, such as drama, writing, discussion, and drawing;
- help children combine all four cueing systems by providing oral and written close procedure activities;
- have children write frequently. Writing focuses children on the semantic aspects of print. Children write with a meaning in mind, and as they write, they read and re-read their pieces to check for meaning.

Understanding Structure (Syntactic Cues)

Readers need to know how language works and to use information such as sentence structure, word order, function words, and word endings as they read. The syntactic context, consisting of the signals provided by the patterns of language, allows the reader to transfer knowledge of oral language to print. Self-correction of miscues that do not "sound right" is evidence of a reader's use of syntactic cues. To build children's knowledge of how language works, the teacher may:

- read to children from a wide variety of literature;
- provide time and opportunities for children to read independently, encouraging children to make predictions based on their knowledge of such patterns;
- establish situations in which children can use language for different purposes–to tell stories, to explain, to persuade, to ask questions, to give directions; and
- use oral and written closure. Focus on syntactic patterns to predict and confirm.

Understanding Sound-Symbol Relationships (Grapho-Phonic Cues)

Readers also need to know how written language is represented (print symbols, directionality, spacing, and letter-sound relationships). The English language does not have one-to-one sound-symbol correspondence; sometimes the same sound is represented in many ways, and one letter may be used to represent many sounds. Effective readers develop generalizations about letter-sound relationships and how these are integrated with the semantic and syntactic cueing systems. To build children's knowledge of how written language is represented, the teacher may:

- help children develop an understanding of letter-sound relationships, by providing opportunities for them to:
  - hear language and then see it in print;
  - see their own words and sentences in print;
  - hear language while following the print; and
  - build a sight vocabulary of signs, letters, labels, and other significant words in their own environment.

- use shared reading experiences, such as big books, to experience stories, songs, poems and chants. Point to the words as you read together to reinforce directionality. Focus attention on particular letter-sound relationships.

- provide many opportunities for writing. Encourage children to use functional spellings. As they attempt to match their spoken and written language, they extend and consolidate their awareness of letter-sound relationships.

- read alphabet books to the children and provide opportunities for reading and writing alphabet books.

- encourage children to develop personal word lists, such as word families and words that sound the same;

- use word games of various types, such as whole class, small group, or individual games.

- provide tapes of stories with accompanying books so children can follow the story in the book while listening.

- use oral and written close procedure activities. Focus on graphic cues to predict and confirm words.

Children learn to read most effectively when the four cueing systems are taken as a whole rather than treated separately. Phonics, spelling, printing, and necessary skills of written language are learned more effectively through meaningful and purposeful use rather than in isolation.

Phonics

Children's knowledge of letter names and of letter-sound relationships is not important in itself, but rather, a tool with which children develop principles to unlock the alphabetic nature of our writing system. Phonics is not a method for teaching, reading, or writing. It is only one cueing system for identifying and spelling words and should be taught as such.

The purpose of phonics is to help children to understand the alphabetic principle, so that they are able:

- in reading: to form an approximate pronunciation that must be checked against their knowledge of real words and the context of the text; and

- in writing: to form an approximate spelling of a word.

Spelling Principles

A Whole Language view of spelling focuses on taking risks, teaching and applying spelling strategies, and recognizing and correcting misspellings when students edit or proofread their written work. This view point recognizes first and foremost that spelling is learned and taught in the context of writing and that spelling competence, like all language competence, develops gradually over time (Routman, 1991).

The following principles apply:

- Spelling should facilitate communication of written language.
- Spelling is developmental.
- The need for standard spelling should be kept in proper perspective.
- There should be no special spelling curriculum or regular lesson sequences.

Quoted from Kenneth Goodman, Brooks Smith, Robert Meredith, and Yetta Goodman (1987). *Language and Thinking in School: A Whole-Language Curriculum*, pp. 300-301.

The debate about phonics instruction is no longer whether phonics should be taught, but rather, how it should be taught. Research indicates that:

- young children attend to and sort out the graphophonic system of written language in the course of using written language in its different forms for different functions;
- there is no specific sequence for teaching or learning phonics skills;
- only the most important and regular of letter-sound relationships should be taught;
- writing is an effective means of directing a child's attention to letter/sound relationships and provides meaningful and purposeful opportunities for practicing strategies for analyzing words;
- young children's spelling reveals their knowledge of phonics;
- once the basic relationships between letters and sounds are understood, the best way for children to extend their knowledge of letter-sound correspondences is through repeated opportunities to read;
- except in exceptional circumstances, instruction in phonics should not continue past the second year in the primary program.

Viewing and Visual Representation

Listening, speaking, reading, and writing are not the only modes of communication. Communication can also occur non-verbally, e.g., American Sign Language, universal signs, logos, and Braille. For some children, these non-verbal forms of language are a major way of communicating. Even when we speak, meaning is conveyed not only through words, but also through non-linguistic cues such as tone of voice, pitch, gesture, facial expression, posture, body language, and eye contact. Likewise, when we listen, we interpret not only what is said, but also these non-linguistic cues.

Reading and writing also incorporate non-verbal information, e.g., directionality, spacing between words, and punctuation marks. Maps, charts, and graphs are specialized visual forms that communicate information.

Children need opportunities both to express and respond to visual representation, for example:

- dramatic play, role play, pantomime, creative movement, dance;
- clusters, webs, maps, charts, graphs;
- drawings, collage, painting;
- modeling, building, constructing; and
- film, television, video.

Children learn to read most effectively when the four cueing systems are taken as a whole rather than treated separately. Phonics, spelling, printing, and other necessary skills of written language are learned more effectively through meaningful and purposeful use rather than in isolation.

Children with First Languages Other Than English

Schools provide special services to children who have language backgrounds other than English and whose proficiency in English is such that the probability of children's academic success in an English-only classroom is below that of academically successful peers with English language backgrounds.

Such children come from many backgrounds in which a variety of variables operate. Some of these variables include:

- Length of time in the United States: third generation to first generation U.S. born; infant immigrant; very recent arrival. This affects climatic, nutritional, and physical adjustments.
- Difficulty of transition to new country: differences between expectations and reality. This has an impact on adjustment and learning.
- Linguistic, cultural, and experiential background: language completely unrelated or similar to English; culture and school experiences different or similar to the U.S. Some children have experienced severe socio-cultural and physical trauma and may be suffering from stress. Others may have chronic health problems. These factors affect rates of learning, behaviors, and socialization patterns.
- Educational background of family members: this may range from highly-educated to illiterate and wealthy to impoverished backgrounds in both rural and urban communities. Understanding educational backgrounds has an impact on understanding about schooling and support for children's learning.

Children are the most open to change and growth when they feel comfortable and confident; therefore, an environment which inspires comfort and confidence is especially important in facilitating the learning and growth of children learning English. The teacher in the nurturing classroom is:

- *Observant*

- of the true nature of cultural bias in the class and classroom activities and its effect on all children.

- *Nonjudgmental*

- of the actions, reactions, and social manners of the children;
- of the relative merits of others' belief systems and ways of living.

Some children, for example, may find it difficult to engage in an activity because "forwardness" of children is not encouraged in their families. The children may be no less enthusiastic and engaged; they may just be more restrained in their expression. An understanding teacher will acknowledge the sparkle in the eyes as much as the leaping up and down.

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- *Informed*
  - about the cultural and language backgrounds of all children in the class so there is better understanding of the affective factors in the variety of experiences and backgrounds.
  - about the level of development of children's first language as well as the second.

- *Supportive*
  - of communication of the customs and values of other cultures in order to enable children to feel valued among their peers.
- *Facilitative*
  - of parents' rights and duties to be informed about and involved in their children's education, mindful of the often difficult barriers to be overcome. These barriers can include language, biases concerning social and/or educational status, and preconceived ideas about public institutions, the rights and roles of parents and the school in the children's education.
- *Patient*
  - toward children who do not seem to be developing as rapidly as expected, knowing there may be tremendous internal growth before it is visible; allowing children time and opportunity to adjust.

"People have
one thing
in common;
they are all different."

Robert Zend

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Implications for Teaching

A child-centered, cooperative learning environment greatly helps the child who is learning English. Some of the pedagogical practices which enable **all** children, including the developing English speakers are:

- providing many opportunities for children's silent observation and internal practice of language, followed by oral rehearsal in a group, before children are required to answer orally, individually, or out loud. Signals can substitute for language until the child feels confident enough to use language to demonstrate comprehension and knowledge. Whispered answers are accepted.
- encouraging a rich variety of oral language use–modeling, exchanging, practicing, elaborating; encouraging other children to interact with the developing English speakers, especially when both will initially be shy.
- providing literature reflecting the diversity in the classroom. Bilingual story books and books in children's home languages help them make the transition to literacy in both languages and enable their parents to participate in the process as English speaking parents can.
- designing, among the many other classroom projects, activities which use real objects and demonstrable references to aid comprehension.
- ensuring that reporting procedures and instruments are culture-fair and that parents are encouraged to interact with school personnel (especially at reporting time) through the use of such aids as interpreters, home-school liaison facilitators, and report card translators.

Contacts

The following contacts may be of help when developing appropriate strategies for children with first languages other than English:

Bilingual Education Consultant
Nebraska Department of Education
301 Centennial Mall South
Lincoln, Nebraska 68509
402-471-2295

Bilingual Education Consultant
Iowa Department of Education
Grimes State Office Building
Des Moines, Iowa 50319-0146
515-281-3805

Bureau of Refugee Programs
Iowa Department of Human Services
1200 University Avenue, Suite D
Des Moines, Iowa 50214
515-281-4334
Toll-free in Iowa 1-800-362-2780

Center for Educational Experimentation
Development and Evaluation
N 345 Oakdale Hall
Oakdale, Iowa 42319
319-335-4116

National Clearinghouse for
Bilingual Education
11501 Georgia Avenue
Wheaton, Maryland 20902
1-800-647-0123

Upper Great Lakes Multifunctional
Resource Center
Wisconsin Center for Educational
Research
School of Education
University of Wisconsin at Madison
1025 West Johnson, SE
Madison, Wisconsin 53706
608-263-4220

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Descriptors of Listening Development

Early Primary	Later Primary
Attitudes	
The child: • grows in confidence; shows interest in what people have to say; • attends with interest to orally presented stories, poems, rhymes, drama, music, prose, etc.; • is beginning to consider thoughts and ideas of others.	The child: • shows increasing confidence; • is becoming a more active listener; • gives a positive response to orally presented stories, poems, rhymes drama, and prose; • shows increasing interest and awareness of another person's point of view; • values listening as a tool for learning and enjoyment.
Skills	
The child: • builds upon listening skills developed during the preschool years; • looks at a speaker; • is sensitive to non-verbal communication; • is learning to listen to the ideas of others in conversations and discussions; • asks for repetition, restatement, or general explanation when meaning is unclear; • may begin to pinpoint his or her own source of confusion and ask about word meanings; • is able to follow simple directions; • is moving from listening for general rather than specific detail for longer periods of time; • is able to distinguish between many types of speech, e.g., informal chat, a warning, a joke, a poem.	The child: • refines the development of previous skills and expands his or her repertoire; • is becoming sensitive to the need to be silent, to wait, to respond, as appropriate; • is learning to listen to ensure mutual understanding and to sustain conversation; • is learning to listen critically (e.g., for main idea, sequence); • recognizes unfamiliar words and asks what they mean; • is able to understand and follow more complex directions; • is becoming more sensitive to detail in content and to sounds within words; • is able to distinguish between social interaction and information transaction within these categories, e.g., praise and flattery.

Descriptors of Listening Development

Early Primary	Later Primary
Skills	
The child: • may be inattentive at times or easily distracted; • focuses on whole (content) rather than part (detail) when listening to a story; • is becoming more able to listen effectively to a variety of media (radio, records, films, tapes, television); • demonstrates an increasing awareness of facts, details, feelings, and values.	The child: • shows increasing attentiveness and less distractibility; • is learning to compare and find relation ships in stories, poems, and conversations; • demonstrates an increasing ability to use facts, details, feelings, and values.
Knowledge	
The child: • may have listening vocabulary of over 20,000 words by age seven; • understands that ideas and information may be gained through listening.	The child: • experiences a rapid increase in vocabulary in a wide variety of areas.

Descriptors of Speaking Development

	Early primary	Later primary
	Attitudes	
Phonology	The child: • is able to use most of the phonemes in our sound system, with the exception of some sounds that are closely related.	The child: • uses phonemes increasingly in conventional ways.
Semantics	The child: • shows signs of widening vocabulary as interests and activities begin to expand; retains some baby talk; • is becoming sensitive to the unwanted effects of poor word choice in speech; • uses subjective language (meaning is clear to child but not always to listener); • is beginning to ask for clarification and explanation of ideas and concepts; • asks about words/ideas not understood; • may substitute own notions rather than seek answers; • asks many fact-finding questions leading to more how and why questions about his or her own physical world; • focuses on whole (content) rather than on part (detail) when retelling a story; • is beginning to be able to get to the point, to tell a story in a proper sequence.	The child: • increases in vocabulary that reflects a growing range of interest and knowledge; • is becoming more thoughtful in choice of words; • uses more objective language (meaning clear and specific); • increasingly asks for clarification and explanation of ideas, concepts, and words; • is beginning to link ideas together; • develops and/or adapts ideas from a variety of sources; • uses questions to seek casual explanation; • shows an increasing ability to integrate parts (details) with the whole when retelling a story; • demonstrates increasing ability to get to the point, to control language, to tell a story in proper sequence.
Syntax	The child: • shows rapid growth in language usage and structure; • manipulates language and experiments with words, (e.g., uses original expressions).	The child: • uses more complex sentence structures, more conjunctions, prepositions and connectives (e.g., when, if, because, since, probably); • demonstrates increasing use of conventional sentence structures.

Descriptors of Speaking Development

Early Primary	Later Primary
Attitudes	
The child: • is acquiring his or her own grammar (uses rules to generate great variety of sentences); • seeks rules and over- generalizes the use of rules for tenses and plurals (e.g., "I does it," "mouses"); • ignores passive form and focuses on word order and negative forms (e.g., many kindergarten children choose a picture of a cat chasing a dog to illustrate "The cat is chased by the dog").	The child: • refines and expands his or her own grammar; • begins to control exceptions to grammatical rules for tenses and plurals; • is beginning to use passive form.
Skills	
The child: • builds upon speaking skills developed during the preschool period.	The child: • refines the development of previous skills and expands his or her repertoire.
The child: • uses language for different purposes, e.g., greeting, informing, requesting); • uses language in a variety of ways: - to reason - to predict - to direct - to maintain self - to imagine - to project - to report on past experiences • is beginning to adapt or change language; • sometimes speaks too loudly or too softly; • begins to show feelings through talk rather than non-verbally; • begins to follow implicit rules for conversation or narratives, (e.g., taking turns, staying on topic); • is moving from egocentric point of view, language is becoming more specific.	The child: • demonstrates increasing ability to use language for different purposes; • refines his or her use of language and expands repertoire to include: to maintain group, to hypothesize and to express doubts; • demonstrates increasing adaptability of language to suit the needs of a listener or situation; • is becoming sensitive to the need to modulate voice to the environment; • shows increasing ability to use talk to express feelings; • demonstrates increasing ability to follow rules for conversations and narratives; • demonstrates increasing understanding of listener's needs, language becomes more specific.

Descriptors of Speaking Development

Early Primary	Later Primary
Knowledge	
The child: • may have a speaking vocabulary of over 5,000 words by age 7; • attempts to understand relationships (e.g., space, time); • is becoming aware of how to use language appropriately in social situations; • is becoming aware of the needs of listeners; • may initiate dialogue; • responds confidently when approached; • needs a listener, yet does not consider a listener's needs (egocentric); • is moving toward awareness of a listener's needs; • shows interest in certain aspects of spoken language such as rhyme and rhythm; • shows interest in comparing and contrasting words; • is interested in playing with words and sounds in words, "creates words."	The child: • experiences a rapid increase in speaking vocabulary in a wide variety of areas; • uses, but tends to confuse, abstract terms (e.g., ask/tell, more/less, older/younger, as in "I'm going to tell my teacher if I can go"); • shows increasing awareness of how to use language appropriately in a wide array of social situations; • shows increasing awareness of needs of listener and need to make self understood; • maintains dialogue with increasing confidence and fluency; • wants listener's close attention; • language is becoming more explicit and objective as the child becomes aware of a listener's needs; • strives for mutual understanding; • is curious about some of the spoken language we use, (e.g., puns, riddles); • is curious about word meanings and wants to try more precise expressions; • is interested in other ways to communicate (e.g., sign language, secret ideas).

Descriptors of Reading Development

Pre-conventional	Emergent
Attitudes	
The child: • shows curiosity about print in the environment; • enjoys being read to; • may think he or she can read; • plays with books, paper, pencils; • plays at reading: - cloth books - board books - picture books	The child: • knows the rewards of reading and rereading; further reading; • "role plays" self as reader relying on memory (rote reads); • explores new books; • chooses to read independently at times; • returns to favorite books; • has an expectation of success in learning to read; • is an avid and independent reader, who is making choices from a wide range of material; • is beginning to show an interest in word forms and spellings.

Descriptors of Reading Development

Early	Fluent	Expanding
Attitudes		
The child • enjoys re-reading favorite books; • is beginning to explore new kinds of texts independently; • usually chooses short books with simple narratives and illustrations; • reads silently for short periods when encouraged to do so; • shows some interest in words encountered in print; • shows interest in topics, characters, and events, and asks questions for clarification; • shows broadening of interests in literature; • accepts miscues/errors as part of striving to get meaning.	The child: • chooses to read silently when given opportunity to do so; • prefers silent reading; reads silently for increasing periods of time; • begins to set own purposes for reading; • reads books for interest, by favorite authors; • is willing to talk about topics, characters, and events; • shows keen interest in words; • makes an effort to read text that goes beyond present knowledge and linguistic development.	The child: • is an avid and independent reader, who is making choices from a wide range of materials; • reads for a variety of purposes; • prefers silent reading (speed improves); reads silently whenever it is possible and without prompting; • chooses confidently and wisely among a range of reading matter available; • persists with text that goes beyond immediate knowledge and linguistic development.

Descriptors of Reading Development

Pre-conventional	Emergent
Skills	
The child: • reads pictures rather than print, attempts are picture-governed, moving from labelling and commenting to story-telling; • approximates some environmental print such as signs and labels in context.	The child: • begins print-governed attempts; • uses pictures to predict text; • actively seeks to link meaning with print in the environment; • recognizes some environmental print such as signs and labels; • recognizes own name.
The child: • is not yet able to tackle print independently; • relies on another person to read the text aloud.	The child: • gains some meaning even when environment cues are absent; • thinks about what may happen and uses this to unfold the story; • is growing in the ability to predict meanings; • is developing strategies to check predictions against other cues such as the illustrations and the print itself.

Descriptors of Reading Development

Early	Fluent	Expanding
Skills		
The child: • uses pictures for checking rather than prediction.		The child: • can tackle some demanding texts and can cope with reading across the curriculum; • is able to read maps, charts, graphs, etc.
The child: • is well launched on reading but still needs to return to a familiar range of texts; often re-reads favorite books; • makes greater use of context for predictions; • makes more accurate predictions; • actively uses alternative cues on the page, (e.g., picture, syntax).	The child: • uses all the cueing systems to get meaning; • is able to read more demanding texts, including children's novels; • approaches familiar texts with confidence but still needs support with unfamiliar materials. 397	

Descriptors of Reading Development

<table>
<tr><th>Pre-conventional</th><th>Emergent</th></tr>
<tr><td colspan="2">Knowledge</td></tr>
<tr><td>The child:
• knows writing is something adults do;
• knows books contain stories;
• thinks the pictures tell the story, (pictures rather than text govern reading attempts);
• knows that books are sources of information and environment;
• knows books have a front and back.</td><td>The child:
• knows language can be recorded and revisited;
• understands the text as well as the illustrations carry the story;
• recognizes book language and sometimes uses this in speech, writing, or play.</td></tr>
<tr><td></td><td>The child:
• understands the importance of background knowledge and uses this to get meaning.</td></tr>
<tr><td></td><td>The child:
• is aware of some print conventions, especially those relevant to directionality, capital letters, and periods.</td></tr>
</table>

Descriptors of Reading Development

Early	Fluent	Expanding
Knowledge		
The child: • understands the importance of self-improving system in developing oneself as a reader; • understands how real and imaginary experiences influence the meaning gained.	The child: • knows how to use books to get information; • knows how to use the library.	
The child: • knows print has a fixed meaning; • understands how much attention needs to be given to text to confirm predictions.	The child: • knows to focus on details of print only when meaning is lost; • understands taking risks and making approximations are an essential part of reading.	The child: • is aware of a variety of genres and can identify elements; • understands authors and illustrators have individual voices and styles.
The child: • understands significance of main conventions of print; • shows increasing knowledge of print conventions; • knows print flows left to right; • has a basic sight vocabulary of functional and personal words; • increases sight vocabulary rapidly; • is stopped by hard words; • knows relationship between the commonest sounds and letters.	The child: • has a reservoir of sight words for reading.	The child: • has a greatly enlarged vocabulary.

Descriptors of Writing Development

	Pre-conventional	Emergent
	Attitudes	
	The child: • takes risks playing with letter or letter-like forms; • is curious about letters and words.	The child: • takes risks in attempting to represent "talk written down"; • is interested in the names of some letters and how to represent specific speech sounds; • writes mainly for self (egocentric).
	Skills	
Pragmatics	The child: • combines drawing and writing; • the drawing conveys most of the meaning.	The child: • combines drawing and writing; • writing supports and is supported by the meaning depicted in the picture.
Semantics	The child: • may not intend to convey message; • may ask "What does this say?" of own writing.	The child: • can write a caption or label to accompany own drawing; • when reading own writing may read the "gist" rather than exact words.

Descriptors of Writing Development

Early	Fluent	Expanding
Attitudes		
The child: • enjoys representing "talk written down"; • enjoys sharing own writing with others; • writes mainly for self or for the teacher.	The child: • enjoys playing with words in writing; • enjoys receiving feedback from teacher and peers about own writing; • writes for a known audience (e.g., classmates).	The child: • enjoys playing with words and ideas in writing; • values and seeks out feed back on writing; • writes for a wider range of audiences.
Skills		
• combines drawing and writing; • writing can stand alone to convey meaning; • is beginning to write for different purposes.	• can convey meaning in writing without pictures when appropriate; • is able to write for an increasing range of purposes.	• can convey complex meanings through writing; • writes for wide range of purposes (e.g., for enjoyment, to think/create ideas, to communicate purposefully with others, to reflect upon experience).
• chooses own topics when encouraged; • writes connected ideas; • can write a sentence and illustrate it; • can "think aloud" on paper, jot notes, keep a journal; • can write three or more sentences that make sense; • sequences ideas logically; • writes in journal on regular basis on personal topics • is developing sense of beginning, middle, end.	• is conscious of own ability to choose writing topics; • consistently writes stories of a full page or more; • writes stories with two or more characters; • writes confidently in the personal mode; • uses writing as an aid to working through ideas; • elaborates and supports idea with relevant details; • gathers relevant ideas; writes in a smoothly connected way.	• confidently chooses own writing topics; • writes easily understood text; • writes fluently: ideas flow fluently, language is not restricted or stilted; • writes in a more organized fashion (e.g., more sequential and sustained); • has a well-developed sense of story and of structure; • writes a properly sequenced story with a convincing setting; includes details about characters.

Descriptors of Writing Development

	Pre-conventional	Emergent
	Skills	
Semantics		
Syntax		The child: • writes single words, phrases, or short simple statements (e.g., single sentence caption).

Descriptors of Writing Development

Early	Fluent	Expanding
Skills		
The child: • writes stories with one character; • may be dissatisfied with some of own writing and show willingness to make some changes; • is able to read own writing.	The child: • writes sufficient relevant ideas to produce a complete and logical sequence; • is beginning to select the words needed to create a particular effect; • is developing some ability to edit and proofread; • begins to develop a "voice" as a writer.	The child: • increases ability to write in more complex narrative and non-narrative forms; • is developing the capacity to write in a poetic style; • is accomplished in writing in the personal (expressive) mode; • uses writing to explore ideas and concepts and to create new ideas; • is increasingly able to manage extended texts; • is able to edit and proofread effectively; • produces writing that is unified, well organized, and elaborated; • shows increasing development of a "voice" as a writer.
The child: • writes a series of simple statements.	The child: • uses a variety of sentence structures; • uses varied sentence lengths; • writes some sentences containing more than one thought.	The child: • uses syntax in writing which is becoming more complete than that used in speech; • arranges words and sentences deliberately to obtain an effect.

Descriptors of Writing Development

	Pre-conventional	Emergent
	Skills	
Grapho-Phonics	The child: • makes strings of marks - letter-like forms - letters • uses letters or letter-like forms to depict meaning; • practices alphabet or letters; • knows some words such as own name, Mom, Dad; • places words and letters in random order; • tries out basic elements of print symbols; • may show linearity and directionality; • may utilize specific number of characters; • demonstrates no sound/symbol correspondence.	The child: • makes letters similar to conventional; • matches some letters to sounds of speech; • is beginning to include functional spellings in own writing; • writes initial consonants in words; • may omit vowels; • uses letter name as a sound cue; • may use one letter to represent a whole word; • may use one letter to represent each syllable; • uses no spacing or nonconventional direction (left-right, top-bottom); • may translate independently (e.g., JBNBO = Jack be nimble, JBKOK = Jack be quick, MGBKMTDA = My grandpa came today).

Descriptors of Writing Development

Early	Fluent	Expanding
Skills		
The child: • develops increasing ability to apply knowledge of sound/symbol correspondences; • begins to use vowel and consonant combinations in syllables; • attempts to represent most consonant sounds; (initial, medial, final); • spells an increasing number of words conventionally; • confidently uses functional spelling where standard form is not known; • shows evidence of awareness of use of upper and lower case letters and periods; • usually translates independently (e.g., IT STRTD TO THDR = It started to thunder, WE WENT TO THE HOSPTL = We went to the hospital).	The child: • is growing in ability to handle most of the conventions of writing (e.g., punctuation, spelling); • has internalized many of the conventions of adult writing (e.g., capitals, periods, question marks); • spells a considerable number of words conventionally; • uses functional spelling as an interim measure while drafting but searches for standard form before final draft; • uses classroom aids to assist or check spelling.	The child: • observes the conventions of written language; • spells most words conventionally; • uses classroom aids to assist or check spelling as appropriate; • continually refines skills of punctuation and spelling.

Descriptors of Writing Development

Pre-conventional	Emergent
Knowledge	
The child: • is aware of conventional print; • may not be aware that print "tells the story."	The child: • knows the names of some letters; • is aware of some forms of writing (e.g., labels, captions, stories, letters); • understands writing as "talk written down."

Descriptors of Writing Development

Early	Fluent	Expanding
Knowledge		
The child: • has extensive knowledge of letter names; • is growing in knowledge of sound/symbol correspondence; • is gaining knowledge of some terms used with writing (e.g., letter, word, sentence); • shows beginning awareness of the needs of an audience; • is aware of more forms of writing (e.g., captions, stories, notes, letters, poems, lists);	The child: • has understanding of most grapho-phonic patterns; • has considerable knowledge of writing terms (e.g., names of punctuation marks, paragraph); • shows increasing awareness of the needs of an audience; • is aware of various forms of writing; • shows beginning awareness of the differences between speaking and writing.	The child: • has a wide understanding of grapho-phonic patterns; • has extensive knowledge of the language of writing (e.g., drafting, editing, description); • knows the needs of and is responsive to the reader (e.g., appearance of writing, letter formation, layout); • is aware of a range of forms and genres (e.g., tall tales, fables, myths, reports, experiments); • shows increasing awareness of differentiation between speaking and writing.

Descriptors of Viewing Development

Early Primary	Later Primary
Attitudes	
The child: • shows interest in a variety of forms of visual representation; • values viewing for enjoyment.	The child: • shows interest in increasing variety of forms of visual representation; • values viewing as a tool for learning as well as for enjoyment.
Skills	
The child: • builds upon viewing skills developed during the pre-school years; • views for a variety of purposes (e.g., for enjoyment, to follow directions); • is moving from viewing for general rather than specific detail to viewing for more detail for longer periods of time; • focuses on whole rather than part (detail) when viewing; • is able to interpret/understand some visual representations in context, (e.g., logos); • may be able to interpret own visual representations confidently; • is becoming more able to view effectively a variety of forms of visual representation.	The child: • refines the development of previous viewing skills and expands repertoire; • views for an increasing range of purposes (e.g., to gain information, to project into another's experience); • becoming more sensitive to detail in content /form; • shows increasing ability to extract pertinent ideas, focus on the detail (parts) and keep whole in mind; to reflect and predict; draw inferences; • approaches familiar forms of visual representation with confidence, but still needs support with new, unfamiliar, or more complex forms; • is beginning to draw inferences from visual representation independently; • is learning to compare and find relationships among a variety of forms of visual representation.
Knowledge	
The child: • understands visual representations convey ideas and information; ideas and information may be gained through viewing; • recognizes some form of visual representation in context (e.g., environmental signs).	The child: • knows how to use a variety of forms of visual representation to get ideas and information; • is aware of an increasing variety of forms of visual representation.

Descriptors of Visual Representation Development

Early Primary	Later Primary
Skills	
The child: • manipulates and experiences with a variety of forms of visual representation; • approximates conventional forms of visual representation; • is able to represent ideas visually in a variety of forms; • is able to represent ideas with confidence when representations involve overt physical action and/or concrete materials, (e.g., by using concrete manipulatives in mathematics).	The child: • manipulates and experiments with an increasing variety of forms of visual representation; • is able to use forms of visual representation in more conventional ways, when appropriate; • is able to represent ideas visually in more complex and sophisticated ways; • is increasingly able to represent ideas in abstract-symbolic forms, (e.g., number sentences in mathematics).
Knowledge	
The child: • is aware of a variety of forms of visual representation; • knows the names of some forms of visual representation, (e.g., a drawing, a picture, a model).	The child: • has understanding of a range of forms of visual representation across the curriculum; • knows the names of many forms of visual representation, (e.g., map, chart, diagram).

Forms of Visual Representation Across the Curriculum

Examples of Language Arts

- web, cluster, mind map, semantic map
- rebus, logo, pictorial sign, sign language, gesture
- concrete poem, found poem, acrostic, cinquain, diamante
- chart, table, matrix, Venn diagram
- crossword puzzles, secret codes

Examples of Mathematics, Social Studies, and Science*

- mathematical notation (concrete, pictorial, symbolic, abstract)
- graph (concrete, pictorial, symbolic, abstract)
- pattern (concrete, pictorial, symbolic, abstract)
- model (concrete, pictorial, symbolic, abstract)
- table (concrete, pictorial, symbolic, abstract)
- matrix (concrete, pictorial, symbolic, abstract)
- diagram (concrete, pictorial, symbolic, abstract)
- map (concrete, pictorial, symbolic, abstract)

Examples of the Fine Arts**

- drawing, painting, collage, print, paper folding, weaving, sculpture, diorama, model
- vocal and instrumental music
- musical notation (concrete, pictorial, symbolic)
- imitation, role play, mime, pantomime, improvisation, story drama, creative dramatics, dramatic and socio-dramatic play, puppetry, finger play
- film, videotape, television
- dance; creative, rhythmic and responsive movement

* See the Mathematics, Social Studies, Science Curriculum Sections.
** See the Fine Arts Curriculum Section.

Across-the-Curriculum Example:
Viewing and Visual Representation in Mathematics

Early Primary	Later Primary
The child: • represents and interprets understanding through: - concrete objects - pictures - objects/pictures with symbols; • constructs and interprets: - concrete graphs - pictographs - tally marks; • identifies, extends, and creates patterns by using concrete objects, 2-D shapes and pictures; • locates lines of symmetry by folding, using manipulatives and drawing; • understands and represents concept of addition and subtract by using: - objects - pictures.	The child • represents and interprets understanding through mathematical symbols: • constructs and interprets - pictographs - symbolic graphs with 1:1 correspondence; • begins to identify and extend patterns with number; • completes and creates symmetrical figures; • understands and represents concepts of multiplication and division by using: - objects - pictures - objects/pictures with symbols - symbols; • represents and interprets addition and subtractions operations using standard algorithm.

Social Studies

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Social Studies in the Primary Program

Common Understandings

Social studies in the primary program examines people in society as they interact with each other and with their many environments: physical, cultural, political, and socio-economic. Emphasis is placed on developing attitudes, skills, and knowledge through a variety of experiences that engage children in active learning. The introduction of significant and appropriate current events is an integral part of the curriculum at the primary level.

"Social studies themes are identified as the focus of work for extended periods of time. Social studies concepts are learned through a variety of projects and playful activities involving independent research in library books; excursions and interviewing visitors; discussions; the relevant use of language, writing, spelling (invented and teacher-taught), and reading skills; and opportunities to develop social skills such as planning, sharing, taking turns, and working in committees. The classroom is treated as a laboratory of social relations where children explore values and learn rules of social living and respect for individual differences through experience. Relevant art, music, dance, drama, wood working, and games are incorporated in social studies. Multicultural and nonsexist activities and materials are provided to enhance individual children's self-esteem and to enrich the lives of all children with respectful acceptance and appreciation of differences and similarities" (Bredekamp, 1991).

The classroom is treated as a laboratory . . . where children explore values and learn rules of social living and respect for individual differences through experience.

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Curriculum Focus

The social studies curriculum at the primary level emphasizes:

- developing attitudes which promote responsible citizenship and an appreciation of American culture, traditions, and heritage;
- a reorganization of the familiar content of self, family, community, and community interactions into three major concepts common to all aspects of the content of the previous social studies curriculum:
  - change,
  - structure,
  - interdependence;
- processes and skills of problem-solving, decision-making, interpreting maps and globes, and locating, acquiring, organizing, and evaluating information.

Each of these is more fully developed under the dimensions of attitudes, skills, and knowledge.

Integrating Curriculum

Social studies can be approached by using the familiar content of self, family, community, and interaction of communities to organize thematic learning experiences that include the development of attitudes, skills, and knowledge of the social studies curriculum or the larger concepts of structure, interdependence, and change. The teacher can weave the attitudes, skills, and knowledge of social studies into other thematic studies, language experiences, and the child's daily interactions in school and community.

The family, school, neighborhood, and community are content-rich workshops inviting exploration and inquiry. They invite children to generate, locate, acquire, and organize information through field trips and first hand experiences. They also invite children to represent knowledge in a variety of ways, in addition to communicating and representing orally and in writing. The content of social studies is also a familiar theme in many books and poems for primary children. Through language and literature, this content and the related concepts can also be introduced, developed, or extended.

Learning Dimensions Through Social Studies

Attitudes

Learning experiences focusing on primary social studies provide children with opportunities to:

- develop an interest and curiosity in the world;
- develop attitudes of responsible citizenship;
- value and respect similarities and differences among people;
- value, respect, and appreciate the variety of cultural identities and heritages in America and the world; and
- respect and care for the environment.

Learning experiences in the primary years provide many opportunities for teachers to help children develop an interest in and curiosity about the world and to demonstrate responsible behavior in the family, classroom, school, and community. Although not unique to the social studies curriculum, these attitudes are included to emphasize their importance.

Positive attitudes toward individuals, cultures, and the environment contribute to the development of personally and socially responsible people. Such attitudes, while not unique to social studies, are emphasized here because of their importance for the young learner. They also illustrate the integrated nature of curriculum throughout the primary program.

Skills

Many of the skills and processes of social studies are also integral components of other curricular areas. They are outlined here to show the degree of overlap and integration of processes and skills in the total primary program. For example:

- problem-solving and decision-making are important thinking processes;
- understanding time and chronology is a component of the measurement strand in mathematics;
- locating, acquiring, and organizing information through reading, listening, viewing, and communicating, both orally and in writing, are all components of language development; and
- citizenship skills, an integral component of the goals of social and emotional development and the development of responsibility, are also emphasized in the responsible living curriculum.

Learning experiences which focus on primary social studies provide children with opportunities to:

- participate in problem-solving activities related to social studies content;
- participate in decision-making activities related to social studies content;
- interpret maps and globes; and
- locate, organize, acquire, and evaluate information related to social studies content.

Knowledge

Social Units

A social unit can be defined as a group with members who have an ongoing relationship to one another. Examples of social units are the family, school, neighborhood, community, state, and nation. Further examples of social units include the classroom, a factory, an ant hill, a club, a political party, a farm, a wolf pack, a zoo, and an orchestra.

All of these social units can be studied in terms of structure, interdependence, and change. These concepts form the major organizing principles of the social studies curriculum. These concepts can be used by the teacher as a vehicle to link social studies with other curriculum areas. For example, a study of the farm could include an investigation of its structure, its interdependence, and change, with these discoveries being related to the children's personal experiences with structure, interdependence, and change within the family, classroom, or community.

The examination of social units in the primary years should include a focus on the family, community, state, and the United States, with all learning continually being related to the child's own experiences. (Refer to *The Importance of Self*, page 9).

Structure of Social Units

Structure is anything arranged in a definite pattern or organization:

- Families can be studied in terms of their structure, size, and composition.
- Communities have a definite structure:
  - physical–boundaries, roads, sewer systems, etc.;
  - social–neighborhoods, organizations, friendship patterns; and
  - political–government (school, municipal, regional districts).

- America has a structure:
  - physical–geography, boundaries;
  - social–national emblems such as the flag and anthem; and
  - political–capitals, states, territories.

- Other social units have a structure (e.g., beehive):
  - physical; and
  - social (queen bee, drones, worker bees).

Children's study of the organization of their families, communities, and other social units enable them to recognize similarities and differences while broadening their understanding of these concepts. Through contrast and comparison, children's perspectives for viewing their own familiar social units (family, neighborhood, school, community) are broadened.

The following illustrates how structure might be examined in various social units familiar to the child:

All Families Have Structures

My Family	Michael's Family	A Bear's Family	Cinderella's Family
• Mom	• Dad	• Mom	• Step mother
• Dad	• 1 sister	• 2 cubs	• 2 step sisters
• 2 brothers			• Cinderella
• 1 sister			
• Grandma			
• Me			

The Interdependence of Social Units

Social units interact with one another, satisfy one another's needs, and have roles and responsibilities.

- Families can be studied in terms of the interdependence of their members:
  - the needs of family members: food, shelter, clothing, love, safety, and recreation;
  - the roles and responsibilities of family members; and
  - the interaction of family members: conflict and cooperation, rights and responsibilities, authority, and affection.

- Communities can be studied in terms of the interdependence of their members within their communities:
  - the roles and responsibilities of community members including workers, volunteers, and citizens;
  - the provision of goods, safety and protection, education, health and social services, recreation, and aesthetic expressions;
  - human interaction within the community including rights and responsibilities, friendship and affiliation, authority, cooperation, and conflict.

- Communities can also be studied in terms of their interaction with other communities and with the environment:
  - the interaction of American communities through use of resources, government, transportation and communication, education, health and social services, recreation, and cultural expression.

- Other social units can be studied in terms of interdependence. For example, bees depend upon the beekeeper and the available flora which in turn is dependent upon climate, soil, etc. These topics can be thoroughly developed and explored in the primary classroom with the study touching on all areas of the curriculum.

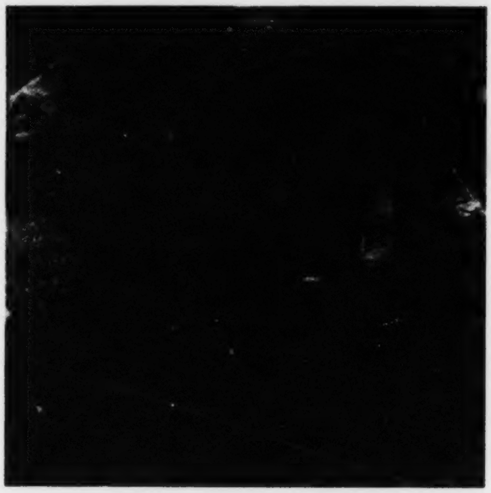
Change in Social Units

- Families may be studied in terms of change in:
  - membership, location, structure, occupation, roles, and responsibilities.

- Communities may be studied in terms of:
  - the changes in a community over time (historical);
  - interaction and change within the physical environment; and
  - projected change for the future.

- Other social units (e.g., bees) may be studied in terms of:
  - changes over time (summer/winter); and
  - interaction (roles).

On the facing page is an example of how change in various social units might be examined.



Change in Social Units

My Community Changes	My Family's Activities Change	A Deer Family Changes
During Fall . . . • corn matures • trees lose leaves • birds, ducks, geese, cranes migrate	• harvest corn • rake leaves • prepare garden for winter • hunt	• eat corn left in fields • may be hunted • move to wintering area
During Winter . . . • snow • ice • cold	• sledding • play indoors	• sleep in thick, wooded areas • look for food
During Spring . . . • warmer weather • rain • wind • plants grow	• fly kites • softball/baseball • play outdoors • plant garden	• fawns are born • roam outdoors • food is easier to find
During Summer . . . • heat • no school	• swim • vacation	• eat plants • raise young

The Importance of Self

Young children are interested in talking and learning about themselves and their experiences. Through focusing on themselves, children may explore:

- uniqueness;
- personal needs;
- similarities with others;
- responsibilities; and
- personal change.

As their social world expands to include other children, young children show more interest in sharing and comparing information with their peers. Content in social studies should always include opportunities for both younger and older primary children to relate what they are learning to themselves and to their peers.

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Descriptors of Learning in Social Studies

Early Primary	Later Primary
Attitudes	
The child: • recognizes the ways in which all people are alike; • accepts responsibility for her/his behavior; • participates in a wide variety of activities; • demonstrates responsible behavior in caring for the school environment; and • responds with interest to exploration of the school and community environments.	The child: • recognizes cultural similarities and differences; • understands that differences in people do not change the ways in which we are all alike; • accepts responsibility for her/his behavior and anticipates consequences of actions; • participates in a wide variety of activities; • understands and demonstrates responsible behavior with respect to a healthier environment; and • demonstrates an interest in and curiosity about an expanding world environment.

Descriptors of Learning in Social Studies

Early Primary	Later Primary
Skills	
The child: • identifies problem or issue; • locates and acquires information through: - print sources, - pictorial sources, and - real-life interactions; • organizes information through a variety of concrete representations; • evaluates whether information is fiction or non-fiction; and • compares objects, pictures, and ideas using concrete attributes.	The child: • identifies possible solutions or answers; • locates and acquires information through: - print sources, - pictorial sources, and - real-life interactions; • organizes information through a variety of concrete and symbolic representations at increasingly complex levels; • evaluates whether information is fact or opinion; • compares objects, pictures, and ideas using a larger variety of concrete and abstract attributes; and • can locate and represent specific information on maps and globes.

Descriptors of Learning in Social Studies

Early Primary	Later Primary
Knowledge	
Self as the Fundamental Social Unit	
The child: • identifies own unique characteristics; • recognizes own personal needs: physical, emotional, social, and intellectual; • accept appropriate responsibility for one's own actions; and • identifies important personal changes: physical, emotional, social, and intellectual.	The child: • recognizes similarities and differences among people; • understands that all people share similar needs; • demonstrates ability to interact cooperatively with others; and • develops the ability to cope with and control personal change.
Structure of Social Units	
The child: • investigates various social units; and • investigates structure of social units.	The child: • understands connections among various social units; and • can compare and contrast structures of differing social units.

Descriptors of Learning in Social Studies

Early Primary	Later Primary
Knowledge	
Interdependence of Social Units	
The child: • recognizes that members of a social unit satisfy one another's needs; and • recognizes that members of a social unit have different roles.	The child: • understands that members of a social unit have different degrees of responsibility for satisfying needs; and • compares similarities in roles among social units.
Change in Social Units	
The child: • recognizes that all social units change over time; and • recognizes that changes in a social unit affect its members.	The child: • investigates how social units change and make predictions about change; and • recognizes that changes in a social unit affects its members in different ways.

Responsible Living

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Responsible Living in the Primary Program

> *"Children who are allowed to make their own choices grow to see themselves as independent persons who can influence the environment in which they live. They learn to see themselves as persons of worth."*
>
> *Selma Wasserman, Players in The Primary Classroom, 1988.*

Common Understandings

- A variety of health and safety projects (e.g., nutrition, dental health, hand washing) are designed to help children learn many personalized facts about health and safety; to integrate their learning into their daily habits; to plan and to dictate and/or write their plans; to draw and write about these activities; to read silently and aloud; and to enjoy learning because it is related to their lives.

- Teachers promote prosocial behavior, perseverance, industry, and independence by providing many stimulating, motivating activities; encouraging individual choices; allowing as much time as needed for children to complete work; and ensuring moments of private time alone with the teacher or with a close friend.

- Children have many opportunities daily to develop social skills such as helping, cooperating, negotiating, and talking with the person involved to solve interpersonal problems. Teachers facilitate the development of social skills at all times as part of the curriculum.

- Teachers promote the development of children's consciences and self-control through positive guidance techniques including: setting clear limits in a positive manner; involving children in establishing rules for classroom living and problem-solving of misbehavior; redirecting children to an acceptable activity; and meeting with an individual child who is having problems or with children and their parents. Teachers maintain their perspective about misbehavior, recognizing that every infraction does not warrant attention and identifying those that can be used as learning opportunities.

Rationale

Children and Personal Development

The goals of primary education are to further the intellectual, human, social, and personal development of children. Schools must provide opportunities for children to deal not only with subjects that are academically and culturally important, but also with subjects that are personally significant.

Therefore, the curriculum must address the physical, emotional, intellectual, social, and spiritual dimensions of human development.

Children and Change

In today's world, children must be able to deal effectively with change. The composition of society and the nature of the family itself are being fundamentally altered. Dramatic changes are also occurring in the workplace as we more fully enter the "information age." Further, we are witnessing an unprecedented expansion in the number and type of entertainment and recreation options open to people of all ages. Although these changes have some positive effects (proliferation of opportunities), they also have negative effects (social break down and individual alienation).

Therefore, the curriculum must provide opportunities for children to reflect on, discuss, and predict the likely consequences of change as well as to develop and formulate strategies required for adapting to change.

Children and Responsible Decision-Making

Children increasingly need to develop self-esteem and acquire skills and knowledge necessary to make responsible, informed choices so they can lead empowered, purposeful, and fulfilled lives. They also need to develop attitudes that allow them to take advantage of new opportunities and, at the same time, deal confidently with the stresses of uncertainty and change.

Therefore, the curriculum must provide age appropriate opportunities for children to practice solving problems of day-to-day life through the use of decision-making processes that involve thinking about predicting and evaluating the likely consequences of particular decisions.

Children and Responsible Choices

To the extent that health is a matter of learning and making informed choices, this program's focus on physical, emotional, intellectual, social, and spiritual health can benefit children enormously. Health education is effective in helping children develop and maintain health enhancing habits when it is begun early in life and experienced at critical learning periods. There is no doubt healthy children are more ready to learn and more likely to enjoy learning. The incidence and severity of illness and injury can be reduced by adopting positive health practices.

Therefore, the curriculum must provide opportunities for children to evaluate the short-term and long-term benefits of their healthful decisions. It must also provide opportunities for them to assess their own decisions and adopt attitudes and personal habits that are conducive to health.

Curriculum Overview

The responsible living curriculum deals with the physical, emotional, intellectual, social, and spiritual dimensions of human development in terms of issues that are personally relevant for children. In doing so, the curriculum integrates concepts and content from a variety of curriculum areas including health education, physical education, and home economics. The curriculum also includes materials that address contemporary issues facing children. Connections to topics in the traditional subject areas of social studies (e.g., the changing nature of social roles), language arts (e.g., communication skills), and science (e.g., reproductive biology) are also evident throughout the curriculum. The curriculum has been designed to help teachers maintain, reinforce, and enhance those skills, attitudes, and behaviors that enable children to increase control over and improve their personal well-being. This process involves:

- care of one's self (the decisions and actions children take in the interest of their own health and well-being);
- care of others (the attitudes children form and the actions they take to support one another and help each other to cope and grow); and
- care of the environment (the creation of conditions and surroundings that are conducive to health and well-being).

It also should be recognized that the inclusion in the curriculum of topics dealing with physical fitness does not reduce the need for children to actually engage in regular physical activity in order to maintain or improve their fitness levels. The school's physical education program and the responsible living curriculum are intended to be mutually supportive.

The Teacher and the Responsible Living Curriculum

The role of the teacher is to facilitate student learning. In particular, the teacher:

- plans and creates, in collaboration with children, a safe environment which encourages the exploration of ideas;
- examines his or her personal understanding of sensitive topics outlined in the curriculum content;
- develops his or her understanding of personal attitudes and beliefs, especially in those areas where the teacher's opinions may block class discussions;
- works in partnership with colleagues, parents, and others in the community to support and reinforce the objectives of the curriculum;
- continues to be open to new ideas and new teaching methods which will facilitate the implementation of the curriculum;
- responds to children's personal concerns; and
- recognizes personal limitations and reaches out for help when a student is potentially at risk.

Parents and the Responsible Living Curriculum

The family is the primary role model in the development of children's attitudes and values. The school plays a supportive role by focusing on achievement of the objectives outlined in the responsible living curriculum. In order that the partnership between home and school be maintained, it is important that parents be kept informed about all aspects of the responsible living curriculum by:

- exchanging information with the classroom teacher;
- attending orientation meetings and workshop presentations;
- participating in lesson activities; and
- reinforcing and supporting the goals of the curriculum.

The Healthy School Environment

The health and well-being of children directly affects the health of the community. Similarly, the health of the community, through its involvement in and commitment to health and the well-being of children, has a direct impact on the school. Parent and community involvement in health matters can provide support and reinforcement for the school-based curriculum. By drawing upon the energy, skills, and creativity of community members, programs can be developed to provide effective and meaningful support for the responsible living curriculum. A healthy community environment is a cooperative and caring one enabling children to meet basic needs in times of crisis and periods of development.

Services for Children

Services offered to children reinforce the preventive aspects of the curriculum and provide support and intervention to those at risk or in crisis. Services may include screening, assessment, in-class support, placement, counseling, first-aid, immunization, treatment, and disease surveillance. A school-based team can play a vital role in coordinating the efficient delivery of services by school and other personnel as well as ensure that appropriate referrals are made.

Learning Through the Responsible Living Curriculum

Principles

- The responsible living curriculum should promote growth in children's use of appropriate decision-making and problem-solving strategies in personal, family, social, and educational settings.
- The responsible living curriculum should promote growth in children's knowledge that is relevant to personal family and social settings.
- The responsible living curriculum should promote growth in children's reflective understanding about their own thinking and decision-making processes. Children should become increasingly able to select and apply skills and knowledge appropriately in personal, family, and social settings.
- The responsible living curriculum should promote growth in children's ability to respect differences.
- The responsible living curriculum should promote growth in children's positive self-concept.

Curriculum Content

In terms of organization, the curriculum is built around four major concepts:

- Individual awareness and responsibility;
- Relationships;
- Social awareness and responsibility; and
- Lifelong development.

In considering these concepts, it is important to keep in mind that they are interdependent, and no one is more important than the other. A common thread running through all four is decision-making.

Individual Awareness and Responsibility

- ***Children should grow in their ability to identify and develop their sense of self. Opportunities are provided for children to:***
  - become aware of their physical, emotional, intellectual, moral/ethical, and spiritual self;
  - create a process to critically assess and develop their sense of self; and
  - describe how their sense of self may change.

- ***Children should grow in the courage to see themselves as people who need to love and to be loved. Opportunities should be provided for children to:***
  - appreciate what is involved in becoming a thinking, caring, loving person;
  - appreciate the importance of love; and
  - expand and affirm personal concepts of giving and receiving love.

- ***Children should grow in self-confidence and experience, increased motivation to achieve personal growth. Opportunities are provided for children to:***
  - assess their levels of self-confidence and motivation to achieve personal growth;
  - value a positive sense of self-esteem;
  - formulate and implement a plan for enhancing their self-worth, self-confidence, self-esteem, and personal motivation;
  - reflect upon the role of love in the development of self-esteem;
  - take steps to realize their personal potential; and
  - reflect upon and assess specific personal attributes.

- ***Children should grow in the ability to recognize problems, to generate and evaluate alternative solutions, to reach conclusions, and to take action. Opportunities are provided for children to:***
  - appreciate the need for problem-solving;
  - understand decision-making processes;
  - solve everyday problems through the use of the decision-making process;
  - demonstrate the ability to think creatively and critically in decision-making; and
  - understand the relationship between decisions and consequences.

- ***Children should grow in their ability to identify and develop responsibility for their own behavior and decisions. Opportunities are provided for children to:***
  - develop a growing sense of personal responsibility; and
  - relate personal/family values and moral beliefs to personal decisions.

Relationships

- ***Children should grow in the understanding of the nature of human relationships. Opportunities are provided for children to:***
  - understand what constitutes a relationship;
  - examine the need to form and maintain friendships;
  - explore the positive and negative aspects of friendships;
  - develop an understanding of family structures;
  - understand the functions of families (e.g., protection, security, nurture, support);
  - appreciate the role and influence of the family as a social institution;
  - demonstrate an awareness of personal roles within relationships;
  - understand the varying ways that families function; and
  - understand the rights and responsibility within family, peer, and occupational relationships.
- ***Children should grow in an understanding of how relationships develop and change. Opportunities are provided for children to:***
  - examine the ways families grow and change;
  - explore the ways in which relationships grow and change;
  - appreciate the need for responsibility in relationships;
  - build an awareness of growth and change in the individual; and
  - understand how rights and responsibilities affect family, peer, and occupational relationships.
- ***Children should grow in the ability to communicate with other individuals, to develop healthy relationships, and behave in responsible, caring ways. Opportunities are provided for children to:***
  - develop effective interpersonal communication skills;
  - understand that people have differing attitudes, values, and beliefs;
  - appreciate that each individual's perceptions and expressions are unique;
  - develop conflict resolution abilities;
  - appreciate the role of cooperation and competition in relationships;

- acquire an appreciation for what is involved in initiating and maintaining healthy relationships; and
- apply effective communication skills in discussing differences in attitudes and beliefs.

- ***Children should grow in empathy, compassion, and honesty in dealing with others, including a willingness to provide emotional support. Opportunities are provided for children to:***

- appreciate and exhibit empathy, compassion, and honesty; and
- exhibit increased tolerance; and respect in interpersonal relationships.

Social Awareness and Responsibility

- ***Children should grow in the understanding of family and societal expectations. Opportunities should be provided for children to:***

- appreciate how family roles, family expectations, and societal expectations influence behaviors; and
- understand how prejudices, stereotypical views, attitudes, and behaviors influence the rights and goals of others.

- ***Children should grow in the understandings of their rights and responsibilities as persons who are both independent of and interdependent with others in society. Opportunities are provided to:***

- develop an appreciation for personal and societal rights and responsibilities;
- understand and develop an attitude of intolerance toward unfair, irresponsible, exploitative, and abusive behaviors;
- avoid becoming the object of exploitative and abusive behaviors or the victim of irresponsible behaviors;
- develop the ability to cooperate and work together for the benefit of the larger group;
- analyze and evaluate membership in social groups; and
- appreciate the impact of the environment on health as well as the contribution individuals and groups make to a healthful environment.

- ***Children should grow in an understanding of the diverse nature of society. Opportunities are provided for children to:***

- understand the extent of American social diversity; and
- appreciate the variety of opportunities present in a diverse society.

Lifelong Development

- ***Children should grow in the development of attitudes and skills which promote health. Opportunities are provided for children to:***

- demonstrate an awareness of factors that influence an individual's health, the health of others, and the health of the environment;

- develop and maintain a variety of good health habits; and

- appreciate healthful life-styles.

- ***Children should grow in appreciation for being a lifelong learner. Opportunities are provided to:***

- understand the concept of lifelong learning in terms that are personally relevant; and

- develop a more sophisticated perspective on their present knowledge, attitudes, and behaviors.

- ***Children should grow in the ability to access information. Opportunities are provided for children to:***

- develop information-gathering skills; and

- understand how to evaluate prior knowledge and access new information sources.

- ***Children should grow in the understanding of support services. Opportunities are provided for children to:***

- develop an awareness of the kinds of support available in the family, school, and community; and

- obtain needed assistance from a variety of support services.

- ***Children should grow in the ability to set attainable goals for themselves. Opportunities are provided for children to:***

- understand and appreciate the importance of goal-setting and follow-through.

- ***Children should grow in the development of skills which enable them to adapt to and/or effect change. Opportunities are provided for children to:***

- understand the significance of change;

- become more aware of changes they experience in their personal lives;

- maintain or enhance their ability to manage and adapt to change; and

- understand the continual process of human development and the impact of development on physical and emotional change.

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Descriptors of Learning in Responsible Living

Early Primary	Later Primary
Individual Awareness and Responsibility	
Attitudes . . .	
• The child demonstrates self-awareness: - represents self (e.g., drawings, journals, orally)	• The child demonstrates self awareness: - describes self in a positive, realistic manner; - accepts and plays a variety of roles.
• The child demonstrates personal growth in self-confidence and motivation: - applies previous knowledge to new situations; - expresses own point of view; - responds positively to encouragement.	• The child demonstrates personal growth in self-confidence and motivation: - adapts to new situations with confidence; - expresses and defends own personal view; - responds positively to encouragement and considers input from others.
Skills . . .	
• The child demonstrates the ability to persevere and solve problems: - recognizes when a problem exists; - asks for help when necessary; - identifies alternate solutions; - recognizes the consequences of actions.	• The child demonstrates the ability to persevere and solve problems: - recognizes when a problem arises; - seeks appropriate resources for help; - solves problems using a variety of strategies; - recognizes the consequences of decisions.
Knowledge . . .	
• The child demonstrates an understanding that everyone needs to give and receive love: - demonstrates an awareness of situations in which individuals show caring or loving behavior.	• The child demonstrates an understanding that everyone needs to give and receive love: - demonstrates respect and consideration for self and others.
• The child shows responsibility for his own behavior and decisions: - accepts responsibility for own behavior; - acts responsibly in a variety of situations.	

Descriptors of Learning in Responsible Living

Early Primary	Later Primary
Relationships	
Attitudes . . .	
• The child demonstrates compassion, empathy, honesty, and respect in dealing with others; - shows awareness of need for compassion, empathy, honesty, and respect in dealing with others.	• The child demonstrates compassion, empathy, honesty, and respect in dealing with others: - behaves in a compassionate, empathetic, honest, and respectful manner in dealing with others.
Skills . . .	
• The child practices effective communication skills: - expresses thoughts, feelings, and opinions in appropriate ways; - listens attentively to others' points of view; - responds appropriately in a variety of social situations.	• The child practices effective communication skills: - expresses thoughts, feelings, and opinions in appropriate ways; - understands the role and impact of non-verbal communication; - listens attentively and considers others' points of view; - responds appropriately in a variety of social situations.
Knowledge . . .	
• The child demonstrates an understanding of the nature of human relationships and how they develop and change: - identifies different types of relationships (e.g., peer, family, other).	• The child demonstrates an understanding of the nature of human relationships and how they develop and change: - initiates new relationships and maintains positive, existing relationships.

Descriptors of Learning in Responsible Living

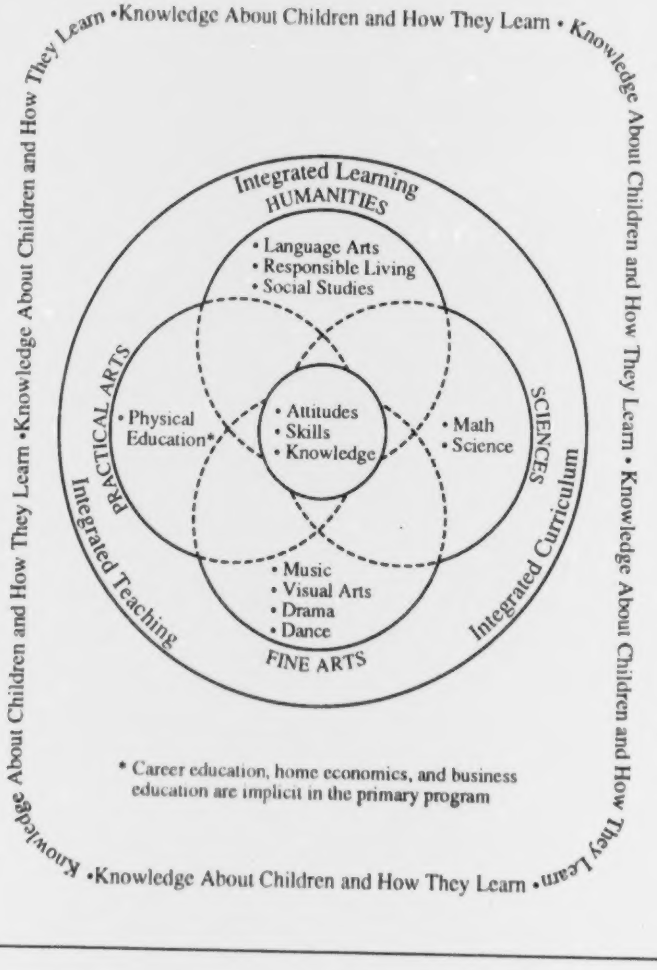
Early Primary	Later Primary
Social Awareness and Responsibility	
Attitudes and Skills . . .	
• The child demonstrates a respect for personal and societal rights and responsibilities: - demonstrates an understanding of the purpose of rules; - identifies and applies safety rules in a variety of everyday situations; - participates cooperatively in social groups; - recognizes own uniqueness.	• The child demonstrates a respect for personal and societal rights and responsibilities: - demonstrates social responsibility in caring for personal and public property and the environment; - identifies and applies safety rules in a variety of everyday situations; - accepts and assumes a variety of roles within social settings; - demonstrates an awareness of and respect for the similarities and differences among individuals and among groups.
Knowledge . . .	
• The child demonstrates an awareness that irresponsible, abusive, and exploitative behaviors are intolerable: - identifies and reports irresponsible, abusive, and exploitative behaviors.	• The child demonstrates an awareness that irresponsible, abusive, and exploitative behaviors are intolerable; - identifies options for dealing with a problematic, dangerous, or unsafe situation (e.g., refusing, reporting, and leaving situation).
• The child understands how family roles and societal expectations influence behaviors: - is becoming aware of social rules; - demonstrates awareness of how peers and family affect interests and choices.	• The child understands how family roles and societal expectations influence behaviors: - identifies and applies social rules in a variety of situations; - demonstrates awareness of how the community and the media affect interests and choices; - explores how significant social figures in influence personal goals and choices (e.g., historical figures, role models, fictional characters).

Descriptors of Learning in Responsible Living

Early Primary	Later Primary
Lifelong Development	
Attitudes . . .	
• The child shows care and concern for others in need or crisis.	• The child shows care and concern for others in need or crisis.
• The child demonstrates respect for the health of self, the health of others, and the environment.	• The child recognizes the connection between a healthy environment and human health.
• The child appreciates personal goal attainment: - sets attainable personal short-term goals; - experiences satisfaction in attaining goals.	• The child appreciates personal goals attainment: - identifies and follows specific steps to achieve short-term goals; - experiences satisfaction in attaining goals.
Skills . . .	
• The child practices good health and safety habits (e.g., nutrition, fitness, hygiene, recreational activities).	• The child practices good health and safety habits (e.g., nutrition, fitness, hygiene, recreational activities).
• The child understands and adjusts to change: - demonstrates an awareness of changes within themselves and in their environment.	• The child understands and adjusts to change: - identifies opportunities for personal growth with relation to change (e.g., moving provides opportunities for new experiences and friendships); - adjusts to new situations and experiences and applies problem-solving strategies.
Knowledge . . .	
• The child identifies a variety of information sources	• The child evaluates a variety of information sources.
	• The child develops strategies for accessing reliable information and support systems.

Practical Arts

- Physical Education



Knowledge About Children and How They Learn
Integrated Learning
HUMANITIES
• Language Arts
• Responsible Living
• Social Studies
PRACTICAL ARTS
• Physical Education*
• Attitudes
• Skills
• Knowledge
SCIENCES
• Math
• Science
• Music
• Visual Arts
• Drama
• Dance
FINE ARTS
Integrated Teaching
Integrated Curriculum

* Career education, home economics, and business education are implicit in the primary program

Physical Education

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Physical Education in the Primary Program

> *"Parents and teachers have become increasingly aware of the importance of providing children with meaningful movement experiences. There is a growing realization among educators that the vigorous physical activity engaged in by children plays an important role in their total development. For children, movement is at the very center of their life. It permeates all facets of their development, whether in the psychomotor, cognitive, or affective domains of human behavior."*
>
> *Gallahue, Developmental Physical Education for Today's Elementary School Children, 1987.*

Common Understandings

"During the primary years, children's physical growth tends to slow down as compared to the extremely rapid physical growth that occurred during the first 5 years of life. Children gain greater control over their bodies and are able to sit and attend for longer periods of time. However, primary age children are far from mature physically and need to be active. Primary grade children are more fatigued by long periods of sitting than by running, jumping, or bicycling. Physical action is essential for these children to refine their developing skills, like batting a ball, skipping rope, or balancing on a beam. Expressing their newly acquired physical power and control also enhances their self-esteem" (Bredekamp, 1988, p. 63).

Physical Activity and Well-Being

Opportunities for physical activity are integrated throughout each day as relevant to the curriculum and as needed for children to express themselves physically. Specialists work with classroom teachers and children (Bredekamp, Sue, Ed., 1988, p. 72).

Participation in appropriate kinds and amounts of physical activity:

- Promote changes in brain structure and function in young children. Sensory stimulation through physical activity is essential for the optimal growth and development of the young nervous system;
- Promotes early cognitive function through imitation, symbolic play, the development of language skills, and the use of symbols;
- Assists in the development of perceptual abilities involving vision, balance, and tactile sensations;
- Enhances the function of the central nervous system through the promotion of a healthier neuronal network;

- Assists development of cognition through opportunities to develop learning strategies, decision-making, acquiring, retrieving, and integrating information and solving problems;
- Fortifies the mineralization of the skeleton and promotes the maintenance of lean body tissue, while simultaneously reducing the deposition of fat;
- Leads to proficiency in the neuromuscular skills that are the foundation for successful participation experiences in games, gymnastics, dance, and other activities;
- Enhances self-concept and self-esteem as indicated by increased confidence, assertiveness, emotional stability, independence, and self-control;
- Is instrumental in the development and growth of moral reasoning, problem-solving, creativity, and social competence; and
- Improves the psychosocial and physiological functions of individuals with mental and physical disabilities.

(Seefeldt, V. D., Ed., Physical Activity and Well-Being, 1986)

The Importance of Physical Education

Physical education is an integral part of the primary program in that it contributes to its five major goals. The goal of physical development is most effectively met through a well-balanced developmental physical education program. Through the content and strategies employed, teachers can enhance and promote intellectual development in their students. Emotional and social growth can be fostered through a variety of individual and cooperative physical activities. A child can also develop artistically and aesthetically when engaged in areas such as creative movement. The physical education program emphasizes fair play, cooperation, and loyalty, which directly relate to the goal of responsible living. The physical education program provides children with experiences that help develop motor skills and problem-solving abilities through play and structured physical activities. It develops a child's level of health and fitness as well as enhances appreciation and enjoyment of human movement. Thus, physical education provides a unique contribution to the total development of the child.

Critical Elements of Physical Education

The primary physical education program helps children reach their highest intellectual, social/emotional, and physical potentials through the medium of physical activity. The program must include a wide selection of dance, gymnastics, games, fitness, and other activities using strategies that emphasize a creative and exploratory approach. The following elements are integral to planning and implementing a quality physical education program.

Quality Physical Education Programs

A quality physical education program designed to meet the needs of all students must include a variety of activities in the areas of dance, gymnastics, games, fitness, and activities in alternate environments. The emphasis is on a sequential, skill-based, cooperative, and process-oriented program. It is recommended that a qualified physical education teacher be available to assist in planning and implementing this program. Further assistance can be provided by other professional, para-professional, and support staff.

Daily Physical Education

Regular vigorous activity is crucial for learning movement skills and ensuring normal growth and development. It also affects fitness and has a marked influence on health attitudes and habits.

Facilities and Supplies

The gymnasium is an ideal learning environment for quality physical education. In most schools, physical education can easily be scheduled in the gymnasium two to three times per week. In order to provide daily physical activities, considerations may include team teaching with two or more groups using recess time, shortening daily lessons, and beginning physical education classes promptly throughout the entire day. When there is no room in the gymnasium, alternate spaces can be used. These include the classroom with furniture moved aside, multi-purpose rooms, hallways, cafeterias or lunch rooms, fields, adjacent parks, grassy areas, and open spaces.

To maximize instructional time and to individualize learning experiences, class sets of all supplies must be available, e.g., balls, bean bags, cones, hoops, skipping ropes, scoops.

Integration

Organizational, planning, and problem-solving abilities are important intellectual skills. Imaginative and creative thinking is equally important. The development of these skills can be clearly fostered through regular, quality physical education.

Every curriculum area can enrich the physical education program. Equally valuable is the ability for physical education to enhance specific concepts from other subject areas. An integrated approach fostering conceptual development focuses on the whole child as a learner.

Children with Special Needs

All children must be given an equal opportunity to participate in physical education in order to help them develop to their maximum potentials. "Children should not be excluded from a physical education program because of a disability, whether temporary or permanent, mild or severe, single or multiple. Wherever possible, they must be main streamed into the regular physical education class" (Gallahue, 1987, p. 62). By providing these opportunities, the five goals of the primary program can be fostered for each individual learner, taking into consideration the fact that the main streaming of children with special needs often requires support personnel.

Social/Emotional Safety

Teachers who encourage and appreciate individual differences will foster desirable attitudes toward physical education. A major objective is to develop a positive class environment in which everyone may be prepared to face challenges. Children need to respect their own and others' abilities, limitations, and personal rights.

Physical Safety

The environment of the physical education class affects the physical safety of every child. All children must be supervised during physical education activities. Equipment must be properly maintained. All instructional activities should be structured in accordance with the developmental abilities of each child. Children need to develop a responsible attitude toward their own safety and that of others.

Activities in Alternate Environments

A quality physical education program must provide a wide range of instructional and recreational opportunities. This includes exploring the dimensions of alternate environments which will develop a positive attitude toward potential lifetime activities. Started at an early age, these activities foster positive attitudes toward a healthy, active life-style. The range of lifetime activities will vary from community to community, according to the availability of facilities, resources, and geographic location.

Learning Through Physical Education

Physical Education from Primary to Graduation

Physical education develops:

- intellectual growth through physical activities; and
- knowledge and understanding related to the development of physical skills and abilities, and the attainment of an active, healthy life-style.

Physical education assists in developing in individuals:

- efficient and effective motor skills;
- the ability to perform motor skills in a wide variety of movement forms;
- a functional level of both performance and health-related fitness;
- an appreciation of the value of regular physical activity in the lifelong maintenance of active living;
- positive personal attributes and interpersonal relationships;
- the self-confidence and life management skills vital to maximizing their personal potential and career objectives; and
- the appreciation of career opportunities in related fields.

The Primary Physical Education Program

The physical education component of the primary program evolves from the broad goals of physical education discussed above. The primary physical education program should:

- *Provide opportunities for positive play experiences.*

  Play is essential in the lives of children as it helps them master their environment and understand and cope with the world around them. Play is natural and spontaneous and allows children to discover themselves, their strengths and weaknesses, and their skills and interests. Play provides opportunities for each child to develop intellectually, physically, socially, and emotionally.

- *Enhance physical growth and development.*

  Heredity determines certain physical characteristics of the child. Other factors relating to nutrition, health, and environment directly affect physical growth and development. Scientific evidence indicates that normal healthy growth of bone, muscle, and other tissues of the body depends on adequate and continuous physical activity throughout the developmental years. Appropriate activities should be designed to meet the needs of all children, including those with special needs.

- *Develop attitudes, skills, and knowledge in a wide variety of motor skills.*

Primary children display a range of physical abilities and energy levels. The teacher uses these characteristics to assist children in developing a variety of motor skills for active living. By providing a variety of experiences that include an appropriate range of activities such as playing, moving, and exploring, the teacher can enhance the development of muscle control, coordination, and body awareness within the child. Such a program stresses both functional and expressive movements that include activities from all areas of the physical education curriculum.

- *Promote physical fitness and well-being.*

Opportunities should be provided for children to participate in activities that promote fitness and increase awareness of the need for fitness and well-being. The teacher fosters a positive attitude toward development of cardiovascular endurance, muscular endurance and strength, flexibility, and weight control. Fitness levels in children are affected by activity, genetic endowment, and nutrition. To maintain or increase fitness levels, provision should be made for children to participate in daily physical activity. The aim is to help children internalize the joy and feeling of well-being that exercise provides. Physical activity may then become a permanent part of their daily lives.

- *Enhance personal and social development.*

Physical education provides the opportunity for children to learn appropriate behaviors in a variety of social settings. As children progress through a program in which they can test their tolerance, perseverance, and self-direction, they practice and learn the skills of communicating, cooperating, sharing, and trusting.

- *Foster intellectual growth.*

The intellectual growth of children involves the cognitive skills of acquiring, ordering, and communicating knowledge and ideas. This leads to the ability to express ideas and feelings in a creative way through a variety of modes of expression. Physical education provides an effective medium in which young children exercise their thinking processes in active and inventive ways.

Curriculum Content

Learning Dimensions

Attitudes

Physical education in the primary program provides children with opportunities to develop:

A. Awareness of physical activity as an enjoyable experience
- joy of movement
- skill competence and self-confidence
- aesthetics of movement

B. Awareness of physical activity as a social and cooperative experience
- cooperation
- leadership
- followership
- contribution to the group and sharing

C. Appreciation of each person's unique physical abilities
- respect for self
- respect for others
  - as individuals
  - in groups

D. Appreciation of quality and effort in the work of others
- encouragement
- praise
- acceptance

E. Responsibility for own behavior
- safety of others
- fair play
- etiquette
- respect for property

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Skills

Physical education in the primary program provides children with opportunities to develop skills through participation in games, gymnastics, dance, and activities in alternate environments.

Games

The introduction of locomotor and manipulative skills as they relate to individual and group activities provides the essential motor skill development children will need in later years.

Locomotor
- in general and personal space

Walking and Running
- stopping and starting
- dodging and darting
- chasing and following

Additional Traveling
- hopping, skipping, running, rolling, leaping, jumping, galloping, side-sliding

Jumping
- for distance
- for height (changing levels)
- with an implement

Manipulative Skills
Carrying (using body parts)
- with control

Sending and Receiving
- sliding and retrieving
- rolling and receiving
- two hands
- one hand (left and right)
- alternate hands

Ball Bouncing
- two hands
- one hand (left and right)
- alternate hands
- stationary
- moving
- avoiding obstacles and others

Throwing (with accuracy)
- underhand
  - two hands
  - one hand
- overhand
  - two hands
  - one hand
- at a stationary target
- at a moving target
- using an implement

Catching
- on the bounce and in the air
  - two hands
  - one hand
  - while stationary
  - while moving

Throwing and Catching
- passing
  - two hands
  - one hand
  - two people stationary
  - one person moving
  - two or more people moving

- using implements
  - underhand
  - overhand
  - at a target
  - stationary

Striking (with accuracy)
- using hand
  - one hand
  - two hands
  - alternate hands
  - underhand
  - while stationary
  - while moving

- using feet
  - inside of foot
  - outside of foot
  - instep
  - striking a stationary ball
  - striking a moving ball
  - dribbling

- passing
  - two people stationary
  - one person moving
  - two or more people moving

- trapping
  - inside of foot
  - sole of foot
  - outside of foot

- using implements
  - while holding object
  - a moving object
  - continuous striking
  - underhand
  - sidearm

Gymnastics

Gymnastics in the primary program promotes the development of physical fitness and motor skills, while allowing children to participate successfully at their own level of ability.

Traveling

- responding to stop and go
- use of personal and general space
- effort (heavy, light)
- directions (forward, sideways, backward)
- speed (fast, slow)
- levels (high, medium, low)
- pathways (straight, curved, zigzag, diagonal)
- locomotor (walking, running, jumping, hopping, sliding, etc.)
- shapes (stretch, curl, wide, narrow, twisted)

Relationships

- individual sequence
- partner and small group sequence
    - following
    - matching
    - mirroring
- small apparatus
- large apparatus

Jumping and Landing

- five basic jumps
- using directions
- using speeds

Rolling

- different ways (log, safety, etc.)
- directions
- speeds
- shapes

Sequencing

- jump, land, roll
- travel, jump, land, roll

Weight Bearing

- using different body parts
- levels
- shapes
- bridging
    - individual
    - partner
    - small group
- rolling and balancing
- inverted balances

Transfer of Weight

- by step-like movements
- using different body parts
- by rocking
- by rolling
- from feet to hands, hands to feet
- while changing levels
- while changing speeds
- by changing directions
- by changing shape

Flight

- while using different shapes

Dance

Dance in the primary program includes different forms including singing games, mime, rhythmics, creative/traditional folk and creative dance.

Rhythm
- perceiving steady beat
- locomotor
- rhythmic patterns
- accenting beats
- perceiving phrases

Locomotor
- walk, run, jump, hop, leap, side-slide, gallop, skip
- step-touch
- bleking (Mexican Hat Dance)

Pathways
- straight
- curved
- zig-zag

Relationships
- partner
- small group
- greeting
- meeting, parting
- turning, swinging

Formations
- lines
- circles
- squares

Interpretive Movements
- body awareness
  - individual body parts
  - shape
  - balance
  - transfer of weight
  - gesture
- space awareness
  - direction
  - level
  - personal and general space
  - pathways
- qualities
  - speed
  - force (strong, light)
  - time
  - flow
- relationships
  - individual
  - partner
  - group
  - with objects
- pantomime activities

Activities in Alternate Environments

Participation in a wide range of instructional and recreational activities will foster positive attitudes, skills, and knowledge necessary for a healthy, active life-style.

Aquatics
- instructional swimming
  - adjustment to water
  - flotation
  - propulsion
  - jumps and dives
- water safety
- survival swimming
- water games
- cardiovascular endurance
- muscular endurance
- muscular strength
- flexibility
- nutrition

Outdoor Pursuits
- camping
- hiking
- skiing (cross-country)

Community spaces
- roller skating
- ice skating
- bowling

Knowledge

Physical education in the primary program provides children with opportunities to develop:

Understanding of safety
- safety of self
- safety of others
- safety procedures/rules
- safety techniques

Understanding of movement terminology
- locomotor
- manipulative
- dance forms
- gymnastic movements

Understanding of elements of movement
- body awareness
- space
- qualities
- relationships

Understanding of the creative process
- perceives stimulus
- discover/explore
- select
- combine
- refine
- perform

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Descriptors of Learning in Physical Education

Early Primary	Late Primary
Attitudes	
The child: • shows joy and excitement for moving; • participates willingly; • enjoys play; • accepts diverse physical abilities of others; • seeks teacher attention; • accepts their own efforts.	The child: • shows joy and excitement for moving; • participates willingly in all activities; • enjoys interactive play; • cooperates in partner and small group activities; • accepts diverse physical abilities of others; • displays confidence in own ability; • appreciates quality and effort in the works of others.
Skills	
The child: • is developing space awareness; • works individually; • explores partner and small group work; • is developing large and small muscle control and coordination; • demonstrates various locomotor and non-locomotor movements; • combines movements into simple sequences.	The child: • demonstrates space awareness; • works individually and independently; • works effectively in partner and small group activities; • is refining large and small muscle control and coordination; • demonstrates proficiency in locomotor and non-locomotor movements; • combines movements into complex sequences; • applies problem-solving skills with greater frequency.

Descriptors of Learning in Physical Education

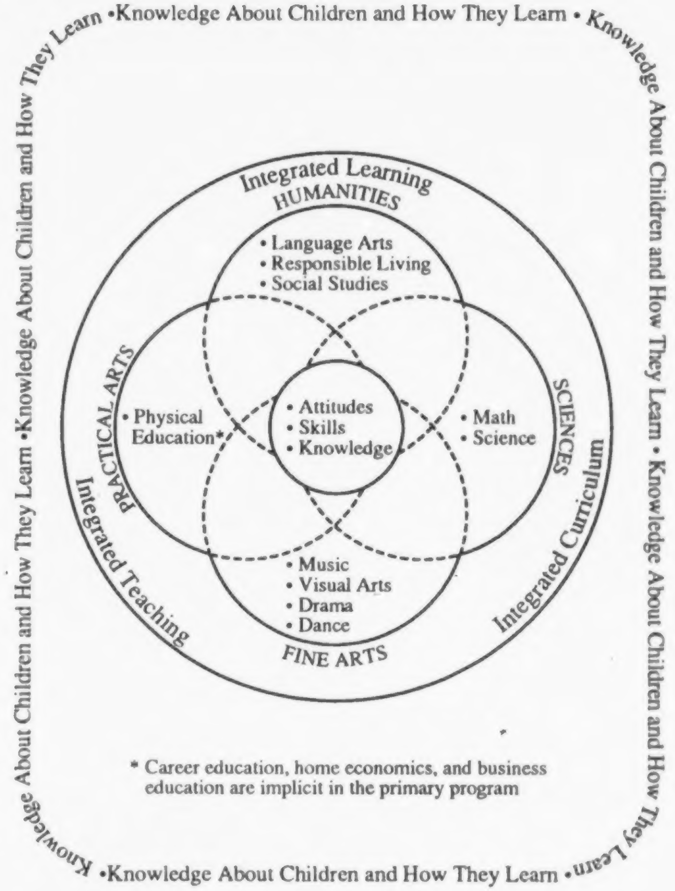
Early Primary	Late Primary
Skills	
The child: • moves to simple rhythms; • explores simple action words through movement; • jumps and lands safely in a variety of ways; • rotates in a variety of ways; • balances using different body parts; • develops individual sequences using gymnastics skills; • explores gymnastics skills with small/ large apparatus; • is developing hand-eye coordination; • creates individual games and play situations; • explores non-traditional activities, e.g., juggling, rhythmics; • explores activities in alternate environments; • shows awareness of multicultural activities; • recognizes personal space and safety.	The child: • moves to a variety of rhythms; • expresses ideas and feeling through movement; • incorporates jumps and landings into movement sequences; • incorporates rotations into movement sequences; • balances on different body parts; • incorporates gymnastic skills into movement sequences; • uses gymnastics with small/large apparatus; • slides and rolls objects at a target with accuracy; • demonstrates hand-eye coordination using a variety of materials; • creates partner and small group games and play situations; • continues to explore a wide variety of non-traditional activities; • explores a wider variety of activities in alternate environments; • continues to explore multicultural activities; • recognizes and honors personal space and safety.

Descriptors of Learning in Physical Education

Early Primary	Late Primary
Knowledge	
The child: • is aware of the importance of safety for self and others; • engages in appropriate behavior; • is developing an awareness that games have rules; • shows awareness of personal health and fitness; • recognizes basic movement terminology; • is exposed to careers related to physical education, health and fitness.	The child: • demonstrates safety in relation to self and others; • practices appropriate behavior and fair play; • distinguishes between inventive and established rules for games; • is beginning to take responsibility for personal health and fitness; • communicates movement terminology; • identifies and shows interest in careers related to physical education, health, and fitness.

Sciences

- Mathematics
- Science


Knowledge About Children and How They Learn
Integrated Learning
HUMANITIES
• Language Arts
• Responsible Living
• Social Studies
PRACTICAL ARTS
• Physical Education*
• Attitudes
• Skills
• Knowledge
SCIENCES
• Math
• Science
• Music
• Visual Arts
• Drama
• Dance
FINE ARTS
Integrated Teaching
Integrated Curriculum

* Career education, home economics, and business education are implicit in the primary program

Mathematics

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Content of the Primary Mathematics Program 16
- Mathematics as Problem Solving
- Mathematics as Communication
- Mathematics as Reasoning
- Mathematical Connections
- Patterns and Relationships
- Estimation
- Number Sense and Numeration
- Concepts of Whole Number Operations
- Whole Number Computation
- Geometry and Spatial Sense
- Measurement
- Data Analysis
- Common Fractions

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Mathematics in the Primary Program

> *"We have seen that children learn the real basics of thinking about mathematics through personal experience and playful activities. With appropriate learning experiences from birth through the early elementary years, children will develop a lifelong interest in using mathematics."*
>
> *Janet Brown McCracken, "More than 1, 2 , 3: The Real Basics of Mathematics, National Association for the Education of Young Children.*

Common Understandings

Children of different ages understand mathematical concepts in different ways. Even children of similar ages in the same classroom may be at different developmental levels. By watching children as they play with objects and interact with each other, teachers can recognize different stages of development in mathematical concepts and can plan appropriately.

Babies do not realize that a toy that falls out of the crib still exists when they cannot see it. If their rattle is out of sight, it is also "out of mind." But by the age of one year, most infants have developed a sense of object permanence (Piaget, 1954). They know their rattle is somewhere, even when they are not playing with it. This understanding is an early building block of mathematical concepts that children will develop later on.

The young child's thinking is not always consistent or logical from an adult's point of view. Many two-year-olds have begun learning their first counting words, and they may know that three is more than one or two, but it will be a while before they understand larger numbers and ideas such as eight is more than seven and less than nine. Preschoolers' understandings of number, space, time size, and other concepts are ruled by perception and depend upon how something looks to them. They believe that ten crackers spread out in a line is more than ten crackers placed close together. Young children often think that the spread-out row has "more to eat because it looks bigger." Between six and eight years, many children begin to reason that ten things are ten things, no matter how they are grouped or arranged in space. They have developed conservation of number; that is, they are able to separate number from length, and they tend not to confuse the two concepts (Piaget, 1948).

Preschoolers' understanding of math concepts grows as they have many opportunities to play with objects and learn. At first, a four-year-old might try to fit a little shoe on a big doll's foot and a big shoe on a little doll's foot. Older children know the big shoe has to go with the big doll and the little shoe with the little doll. But the preschooler's way of thinking is an important step in understanding what it means to measure and will be a foundation for future mathematical learning.

Children in elementary school need many opportunities to develop math concepts through actions on concrete objects during spontaneous play, situations of daily living and projects. As children make decisions about how to arrange a group of blocks, sort, and count a set of buttons or compare objects on a balance, they begin to construct mental relationships. A child might separate a group of toy animals into two groups and then recombine the animals to make one group again. Such concrete experiences help children to develop logical-mathematical thinking that forms the basis for understanding the meaning of abstract symbols such as 3 + 5 = 8.

Learning Through Mathematics

Mathematics exploration in the primary years should be related to the child's immediate environment and should always be based on a sound foundation of concrete experiences. The classroom should contain many sets of objects for counting, matching, classifying, ordering, and making spatial relations. Games can provide non-competitive practice for concepts which have previously been developed.

Whenever new material and concepts are introduced, children at all stages of the primary program require extended periods of time to freely explore materials and concepts before more formal instruction begins. The exploration stage is the major focus of mathematical experiences for children at the beginning of the primary program.

Children of different developmental levels understand math concepts in different ways. By watching children at play, teachers can recognize different stages of development in children's thinking.

Math activities are integrated with other relevant science or social studies projects such as plotting the growth of baby hamsters or making a model of the neighborhood. While some aspects of mathematics will be integrated through themes and topics of study it is appropriate to introduce and practice some mathematical concepts and skills in specific blocks of instructional time devoted to mathematics.

Teachers create a risk-free environment that invites inquiry. They guide children's investigations by observing, asking questions, and making open suggestions that stimulate the development of logical thinking. They realize that all the steps children go through in thinking are important and children's "mistakes" are a necessary part of learning. They encourage children to self-correct and evaluate their own progress.

The goal of the math program is to enable children to use math through exploration, discovery, and solving meaningful problems. It is through appropriate experiences presented in logical sequences that positive attitudes develop and effective learning occurs. As children create and solve problems, they become confident of their own ability to make sense of their world and accept new mathematical challenges.

Considerations for Teaching Mathematics

- Math has to do with the relationships among objects, events, and people, such as "how many," "how much," "larger than," "smaller than," "same," "different," etc. Young children explore these relationships through classifying, ordering, number, measurement, space, and time.
- Children within a group will be at different levels of development with regard to mathematical concepts. Mathematics concepts must be introduced in an age appropriate and individually appropriate manner.
- Children develop math concepts naturally through many experiences with concrete objects throughout the primary years before they can understand math concepts in an abstract way. They make a gradual transition to mathematical symbols through describing, drawing pictures and writing about their experiences. Children become confused and frustrated when rushed into symbols too soon.
- Math concepts are used every day. Understanding math concepts helps people function in the world.
- Teachers must decide and agree upon when it is generally appropriate to introduce math concepts. Teachers can gain valuable insights by doing their own informal research with children. Along with observations, readings and discussions about developmental stages in children's understanding of mathematics helps teachers form the basis for curriculum decisions.
- Assessments in mathematics inform teachers' decision-making process. They should be stress-free and often provide valuable learning experiences for the child. Assessments may take the form of observations, tasks and interviews, talking with children about their drawings or stories, etc. During the primary years when children are developing concepts, timed testing is not appropriate.

Information in the following section comes from several sources, including *Curriculum Standards K-4* (National Council of Teachers of Mathematics); *Developmentally Appropriate Practice* (Bredekamp, 1987); and *Kindergarten Curriculum Guide* (1985) and the *Revised Mathematics Curriculum* (British Columbia Ministry of Education, 1987).

The Need for Change

The need for curricular reform in primary level mathematics is clear. Such reform must address both the content and emphasis of the curriculum as well as approaches to instruction. A long standing preoccupation with computation and other traditional skills has dominated both what mathematics is taught and the way mathematics is taught at this level. As a result, the present primary curriculum is narrow in scope; fails to foster mathematical insight, reasoning, and problem solving; and emphasizes rote activities. Even more significant is that children begin to lose their belief that learning mathematics is a sense-making experience. They become passive receivers of rules and procedures rather than active participants in creating knowledge.

The Direction of Change

The NCTM standards describe a vision for school mathematics built around five overall curricular goals for students to achieve: learning to value mathematics, becoming confident in one's own ability, becoming a mathematical problem solver, learning to communicate mathematically, and learning to reason mathematically. This vision addresses what mathematics is, what it means to know and do mathematics, what teachers should do when they teach mathematics, and what children should do when they learn mathematics. The K-4 standards reflect the implications of this vision for the curriculum in the early grades and present a coherent viewpoint about mathematics, about children, and about the learning of mathematics by children.

Children and Mathematics: Implications for the Primary Curriculum

An appropriate curriculum for young children that reflects the standards' overall goals must do the following:

1. *Address the relationship between young children and mathematics.* Children enter kindergarten with considerable mathematical experience, a partial understanding of many concepts, and some important skills, including counting. Nonetheless, it takes careful planning to create a curriculum that capitalizes on children's intuitive insights and language in selecting and teaching mathematical ideas and skills. It is clear that children's intellectual, social, and emotional development should guide the kind of mathematical experiences they should have in light of the overall goals for learning mathematics. The notion of a *developmentally appropriate* curriculum is an important one.

A developmentally appropriate curriculum encourages the exploration of a wide variety of mathematical ideas in such a way that children retain their enjoyment of, and curiosity about, mathematics. It incorporates real world contexts, children's experiences, and children's language in developing ideas. It recognizes that children need considerable time to construct sound understandings and develop the ability to reasons and communicate mathematically. It looks beyond what children appear to know to determine how they think about ideas. It provides repeated contact with important ideas in varying contexts throughout the year and from year to year.

Programs that provide limited developmental work, that emphasize symbol manipulation and computational rules, and that rely heavily on paper-and-pencil work sheets do not fit the natural learning patterns of children and do not contribute to important aspects of children's mathematical development.

2. *Recognize the importance of the qualitative dimensions of children's learning*. The mathematical ideas that primary level children acquire form the basis for all further study of mathematics. Although quantitative considerations have frequently dominated discussions in recent years, qualitative considerations have greater significance. Thus, how well children come to understand mathematical ideas is far more important than how many skills they acquire. The success with which programs at later grade levels achieve their goals depends largely on the quality of the foundation established during the first five years of school.

3. *Builds beliefs about what mathematics is, about what it means to know and do mathematics, and about children's view of themselves as mathematics learners.* The beliefs that young children form influence not only their thinking and performance during this time but also their attitude and decisions about studying mathematics in later years. Beliefs also become more resistant to change as children grow older. Thus, affective dimensions of learning play a significant role in, and must influence, curriculum and instruction.

Assumptions

Several basic assumptions governed the selection and shaping of the K-4 standards.

1. *The primary curriculum should be conceptually oriented.* The view that the primary curriculum should emphasize the development of mathematical understandings and relationships is reflected in the discussions about the content and emphasis of the curriculum. A conceptual approach enables children to acquire clear and stable concepts by constructing meanings in the context of physical situations and allows mathematical abstractions to emerge from empirical experience. A strong conceptual framework also provides anchoring for skill acquisition. Skills can be acquired in ways that make sense to children and in ways that result in more effective learning. A strong emphasis on mathematical concepts and understandings also supports the development of problem solving.

Emphasizing mathematical concepts and relationships means devoting substantial time to the development of understandings. It also means relating this knowledge to the learning of skills by establishing relationships between the conceptual and procedural aspects of rethink when children are expected to demonstrate a mastery of complex skills. A conceptually oriented curriculum is consistent with the overall curricular goals in this report and can result in programs that are better balanced, more dynamic, and more appropriate to the intellectual needs and abilities of children.

2. *The primary curriculum should actively involve children in doing mathematics.* Young children are active individuals who construct, modify, and integrate ideas by interacting with the physical world, materials, and other children. Given these facts, it is clear that the learning of mathematics must be an active process. Throughout the standards, such verbs as *explore, justify, represent, solve, construct, discuss, use, investigate, describe, develop,* and *predict* are used to convey this active physical and mental involvement of children in learning the content of the curriculum.

The importance of active learning by children has many implications for mathematics education. Teachers need to create an environment that encourages children to explore, develop, test, discuss, and apply ideas. They need to listen carefully to children and to guide the development of their ideas. They need to make extensive and thoughtful use of physical materials to foster the learning of abstract ideas.

Primary classrooms need to be equipped with a wide variety of physical materials and supplies. Classrooms should have ample quantities of such materials as counters; interlocking cubes; connecting links; base-ten, attribute, and pattern blocks; tiles; geometric models; rulers; spinners; colored rods; geoboards; balances; fraction pieces; and graph, grid, and dot paper. Simple household objects, such as buttons, dried beans, shells, egg cartons, and milk cartons, also can be used.

3. *The primary curriculum should emphasize the development of children's mathematical thinking and reasoning abilities.* An individual's future uses and needs for mathematics make the ability to think, reason, and solve problems a primary goal for the study of mathematics. Thus, the curriculum must take seriously the goal of instilling in students a sense of confidence in their ability to think and communicate mathematically, to solve problems, to demonstrate flexibility in working with mathematical ideas and problems, to make appropriate decisions in selecting strategies and techniques, to recognize familiar mathematical structures in unfamiliar settings, to detect patterns, and to analyze data. The K-4 standards reflect the view that mathematics instruction should promote these abilities so that students understand that knowledge is empowering and that individual pieces of content are all related to this broader perspective.

   Developing these characteristics in children requires that schools build appropriate reasoning and problem solving experiences into the curriculum from the outset. Further, this goals needs to influence the way mathematics is taught and the way students encounter and apply mathematics throughout their education.

4. *The primary curriculum should emphasize the application of mathematics.* If children are to view mathematics as a practical, useful subject, they must understand that it can be applied to a wide variety of real world problems and phenomena. Even though most mathematical ideas in the primary curriculum arise *from* the everyday world, they must be regularly applied *to* real world situations. Children also need to understand that mathematics is an integral part of real world situations and activities in other curricular areas. The mathematical aspects of that work should be highlighted.

Learning mathematics has a purpose. At the primary level, one major purpose is helping children understand and interpret their world and solve problems that occur in it. Children learn computation to solve problems; they learn to measure because measurement helps them answer questions about how much, how big, how long, and so on; and they learn to collect and organize data because doing so permits them to answer other questions. By applying mathematics, they learn to appreciate the power of mathematics.

5. *The primary curriculum should include a broad range of content.* To become mathematically literate, students must know more than arithmetic. They must possess a knowledge of such important branches of mathematics as measurement, geometry, statistics, probability, and algebra. These increasingly important and useful branches of mathematics have significant and growing applications in many disciplines and occupations.

The curriculum at all levels needs to place substantial emphasis on these branches of mathematics. Mathematical ideas grow and expand as children work with them throughout the curriculum. The informal approach at this level establishes the foundation for further study and permits children to acquire additional knowledge they will need. These topics are highly appropriate for young learners because they make important contributions to children's mathematical development and help them see the usefulness of mathematics. They also provide productive, intriguing activities and applications.

The inclusion of a broad range of content in the curriculum also allows children to see the interrelated nature of mathematical knowledge. When teachers take advantage of the opportunity to relate one mathematical idea to others and to other areas of the curriculum, as will be described in standard 4, children acquire broader notions about the interconnectedness of mathematics and its relationships to other fields. The curriculum should enable all children to do a substantial amount of work in each of these topics at each grade level.

6. *The primary curriculum should make appropriate and ongoing use of calculators and computers.* Calculators can be a valuable tool for learning mathematics. Calculators enable children to explore number ideas and patterns, to focus on problem solving processes, and to investigate realistic applications. The thoughtful use of calculators can increase the quality of the curriculum as well as the quality of children's learning.

Teachers must be aware of children's developmental levels before introducing calculators. The child who does not conserve number and who has not constructed an understanding of the operations of addition and subtraction will not benefit from using a calculator to add and subtract until the logic to support its use has been developed. Calculators do not replace the need to for children to develop these basic arithmetic understandings, to computer mentally, or to do reasonable paper-and-pencil computation. Classroom experience indicates that young children take a common sense view about calculators and recognize the importance of not relying on them when it is more appropriate to compute in other ways. The availability of calculators means, however, that educators must develop a broader view of the various ways computation can be carried out and must place less emphasis on complex paper-and-pencil computation. Calculators also highlight the importance of teaching children to recognize whether results are reasonable.

The power of computers also needs to be used in contemporary mathematics programs. Computers cannot replace the child's need for actions on concrete objects, but once a child has developed a particular reasoning process, there are some excellent programs to help children rehearse, review, and extend concepts.

The thoughtful and creative use of technology can greatly improve both the quality of the curriculum and the quality of children's learning. Integrating calculators and computers into school mathematics programs at appropriate levels is critical in meeting the goals of redefining curriculum.

Changes in Content and Emphasis in Primary Level Mathematics

INCREASED ATTENTION

NUMBER
- Number sense
- Place-value concepts
- Meaning of fractions

OPERATIONS AND COMPUTATION
- Meaning of operations
- Operation sense
- Mental computation
- Estimation and the reasonableness of answers
- Selection of an appropriate computational method
- Use of calculators for complex computation
- Thinking strategies for basic facts

GEOMETRY AND MEASUREMENT
- Properties of geometric figures
- Geometric relationships
- Spatial sense, Spatial shape
- Process of measuring
- Concepts related to units of measurement
- Actual measuring
- Estimation of measurements
- Use of measurement and geometry ideas throughout the curriculum

PROBABILITY AND STATISTICS.
- Collection and organization of data
- Exploration of chance

PATTERNS AND RELATIONSHIPS
- Pattern recognition and description
- Use of variables to express relationships

PROBLEM-SOLVING
- Word problems with a variety of structures
- Use of everyday problems
- Applications
- Study of patterns and relationships
- Problem solving strategies

INSTRUCTIONAL PRACTICES
- Use of manipulative materials
- Cooperative work
- Discussion of mathematics
- Questioning
- Justification of thinking
- Writing about mathematics

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DECREASED ATTENTION

NUMBER

- Early attention to reading, writing, and ordering numbers symbolically

OPERATIONS AND COMPUTATION

- Complex paper-and-pencil computations
- Isolated treatment of paper-and-pencil computations
- Addition and subtraction without renaming
- Isolated treatment of division facts
- Long division
- Long division without remainders
- Paper-and-pencil fraction computation
- Use of rounding estimate

GEOMETRY AND MEASUREMENT

- Primary focus on naming geometric figures
- Memorization of equivalencies between units of measurement

PROBLEM SOLVING

- Use of clue words to determine which operation to use

INSTRUCTIONAL PRACTICES

- Rote practice
- One answer and one method
- Use of work sheets
- Written practice
- Teaching by telling

Content of the Primary Mathematics Program

Topics . . .

Mathematics as Problem Solving–*page 16*

Mathematics as Communication–*page 17*

Mathematics as Reasoning–*page 18*

Mathematical Connections–*page 18*

Patterns and Relationships–*page 19*

Estimation–*page 20*

Number Sense and Numeration–*page 20*

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Geometry and Spatial Sense–*page 23*

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Data Analysis–*page 25*

Common Fractions–*page 26*

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Mathematics as Problem Solving

Problem solving should be the central focus of the mathematics curriculum, a primary goal of all mathematics instruction and an integral part of every activity. Problem solving should permeate the entire program and provide the context in which concepts and skills are developed. A comprehensive and rich classroom environment supports and encourages problem solving efforts so that children feel free to share their thinking, take risks, try different strategies and ways of representing problems and value the problem solving process as much as the solution.

Problem solving in this sense is not the typical "story problems" at the end of a chapter in a math book. Rather, most problem situations arise naturally from school and everyday experiences that have meaning to children. In this context, problems may be thought of as “challenges,” “speculations,” “investigations” or “explorations” not only with numbers but in all areas of mathematical thinking. The teacher may pose problems in the form of thought-provoking questions such as, “What do you think would happen if . . . ?” or “Do you think there is any way to . . . ?” Better yet, children are encouraged to create their own problems which have greater relevance for them.

Children are not directly taught steps of problem solving. Rather, through each child's unique problem solving process, they develop their own strategies such as using manipulatives, trial and error, drawing a picture, looking for a pattern or acting out a problem

In the primary program, the child is provided numerous opportunities for problem solving to:

- use problem solving approaches to investigate and understand mathematical content;
- formulate problems from everyday and mathematical situations;
- develop and apply strategies to solve a wide variety of problems;
- verify and interpret results with respect to the original problem;
- acquire confidence in using mathematics meaningfully.

Mathematics as Communication

"Communication plays an important role in helping children construct links between their informal, intuitive notions and the abstract language and symbolism of mathematics. It also plays a key role in helping children make important connections among physical, pictorial, graphic, symbolic, verbal, and mental representations of mathematical ideas." (NCTM, 1989) Attending to students' communications about their thinking provides teachers with a rich information base from which they can make sound instructional decisions.

Communication connections can be made between mathematics and literature. There are many fine children's books that contain math-related ideas such as counting, problem solving, money, seasonal cycles, time sequencing, relationships, etc. After hearing and reading stories, children can be encouraged to act out the stories with manipulatives or puppets, create solutions to problems found in books, and write and illustrate their own books. In the primary program, the child is provided with opportunities for communication to:

- "relate physical materials, pictures, and diagrams to mathematical ideas;
- reflect on and clarify their thinking about mathematical ideas and situations;
- relate their everyday language to mathematical language and symbols;
- realize that representing, discussing, reading, writing, and listening to mathematics are a vital part of learning and using mathematics." (NCTM, 1989)

The child is provided with opportunities for developing mathematics communication through activities such as:

- keeping a mathematics journal;
- writing a letter/list;
- role playing (e.g., sales clerk and shopper in a store);
- collaborating on a project (e.g., deciding how large a cage to build for the class pet rabbit);
- creating and illustrating a book about mathematics.

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Mathematics as Reasoning

"A major goal of mathematics instruction is to help children develop the belief that they have the power to do mathematics and that they have control over their own successes or failures. This autonomy develops as children gain confidence in their ability to reason and justify their thinking. It grows as children learn that mathematics is not simply memorizing rules and procedures, but that mathematics makes sense, is logical, and is enjoyable." (NCTM, 1989)

Children develop mathematical reasoning thinking by acting on objects and by reflecting upon their actions. For example, a child classifies a set of attribute blocks into groups. As the child decides how group or order the blocks, he/she is developing the logic of classes. In real-life problem solving situations such as creating a board game, the child must consider different possible moves and outcomes. Reasoning is also involved in the construction of various physical quantities such as conservation of amount (e.g., when water is poured from a tall, thin bottle into a short, fat bottle the child reasons it is the same amount because none was added or taken away).

In the primary program, the child is provided with numerous opportunities for reasoning in order to:

- "draw logical conclusions about mathematics;
- use manipulatives, models, known facts, properties, and relationships to explain their thinking;
- justify their answers and solution processes;
- use patterns and relationships to analyze mathematical situations;
- believe that mathematics makes sense." (NCTM, 1989)

The child is provided with opportunities for developing mathematical reasoning, through activities such as:

- exploring relationships among attribute blocks;
- exploring, creating and extending patterns;
- creating riddles (e.g., *What Am I?* I have 3 or 4 sides. All my angles are equal. My sides are not all equal. *Who Am I?* I am more than 20 and less than 30. I am not 25.);
- developing and testing conjectures (e.g., looking for patterns using a 1OO's chart);
- describing thinking strategies for the solution to a problem (think aloud).

Mathematical Connections

As children construct their understanding of mathematics, it is important that they connect their own intuitive knowledge with new ideas. "When mathematical ideas are also connected to everyday experiences, both in and out of school, children become aware of the usefulness of mathematics." (NCTM, 1989) Connections also need to be made within and among the various topics of mathematics.

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In the primary program, the child is provided with numerous opportunities to make connections to:

- "link concepts through active learning;
- relate various representations of concepts to one another;
- recognize relationships among different topics in mathematics;
- use mathematics in other curriculum areas;
- use mathematics in their daily lives." (NCTM, 1989)

The child is provided with opportunities for developing mathematical connections through:

- providing extended exposure to integrated topics through projects and thematic units;
- using mathematical applications such as measurement throughout the year;
- looking for and integrating mathematical connections with other subject areas such as science, art, and the language arts;
- letting mathematical ideas naturally flow from one lesson to another, allowing time for students to explore, discuss, and generalize mathematical connections;
- encouraging students to compare and contrast.

Patterns and Relationships

Patterns are everywhere. Exploring, identifying, and working with a wide variety of patterns help children to develop the ability to classify and organize information, and to understand how Mathematics applies to the world in which they live. Working with patterns fosters the kind of mathematical thinking that serves as a foundation for the more abstract ideas studied in later years.

From the earliest years, children should be encouraged to look for patterns and regularities in events, shapes, designs, numbers. Physical materials should be used to help children recognize and create patterns of their own. From this intuitive beginning, children later generalize pattern to the entire mathematical system.

In the primary program, the child is provided with numerous opportunities for the study of patterns and relationships in order to:

- recognize, describe, extend, and create a wide variety of patterns, e.g., taking a "pattern walk in the neighborhood," or making a placemat for a gift using rubber stampers to create a pattern around the border; stringing colored macaroni in patterns.
- represent and describe mathematical relationships.

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Estimation

Estimation presents students with another dimension of mathematics. There are many instances in real life when an exact count or measure is either not necessary or impossible. When we use terms such as "about," "close to," or "a little less than," we are estimating.

Estimation should be an on-going part of children's experiences. Children can be encouraged to develop an "estimation mindset" that includes what is meant by "estimate," when estimation is appropriate and how close an estimate is required in different situations. If they are encouraged to estimate, they will accept estimation as a legitimate part of mathematics.

When children enter school, they already have intuitive estimation abilities. For example, they know they are "almost six years old" or when it is "about noon." Yet when asked to estimate large numbers or abstract quantities out of their realm of experience, young children may give wildly divergent answers. The child who does not yet conserve number should not be asked to estimate how many seeds in a pumpkin. A suggestion is to begin estimation activities with small quantities of concrete objects and work up to larger numbers as children's mathematical abilities develop. Children are encouraged to estimate and then verify their estimate through actually counting. In this way, their estimates become more logical and reasonable.

In the primary program, the child is provided with numerous opportunities to estimate in order to:

- explore estimation strategies;
- recognize when an estimate is appropriate;
- determine the reasonableness of results;
- apply estimation in working with quantities, measurement, computation and problem solving.

The child is provided with opportunities for developing estimation through activities involving:

- estimating quantity (and verifying by counting);
- estimating length (and verifying by measuring);
- estimating computation;
- estimating as a check when using calculators.

Number Sense and Numeration

Children must understand numbers if they are to make sense of the ways numbers are used in the everyday world. Intuition about number relationships helps children make judgments about the reasonableness of estimates and computational results. Children with good number sense have well-understood number meanings, have developed multiple relationships among numbers, and understand the effects of operations on numbers.

Children construct number meanings gradually through manipulating physical objects and using their own language to explain their thinking. Children's experiences with numbers are most beneficial when the numbers have meaning for them. Number symbols should be linked to concrete materials and symbols

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should only be introduced after the child has had sufficient time to construct meaning with objects. More advanced concepts such as place value are not introduced until the child has a good grasp of relationships among lower numbers. Larger numbers should not be introduced in isolation; rather children should have the opportunity to "build" them by arranging objects in groups, adding, and counting.

In the primary program, the child is provided with numerous opportunities to use whole number concepts and skills in order to:

- construct number meanings through real world experiences and the use of physical materials;
- count, match, order, group, classify;
- develop number sense;
- develop and awareness of numbers encountered in the real world.

Concepts of Whole Number Operations

Understanding the fundamental operations of addition, subtraction, multiplication and division is central to knowing mathematics. These operations have their genesis in physical actions on objects. The young child is already intuitively familiar with combining and separating sets of objects. Many children have had experiences such as sharing out a package of cookies among 3 friends.

Children need to develop "operation sense." Children develop concepts and relationships as they encounter the four basic operations in a wide variety of problem structures. Children with operation sense understand that addition and subtraction are opposite actions. A child might add 3 frogs to 4 toads to make 7 and then make the frogs jump away leaving only 4 toads. In addition to problems involving joining and separating, teachers should suggest problems involving comparing and equalizing. For example, a child might be given a situation in which one dog has 5 bones and the other has 9 with the question, "Can you make it fair?"

Gradually as the child demonstrates understanding of the meaning of an operation, the symbol (+, -, etc.) can be introduced.

In the primary program, the child is provided with numerous opportunities to use addition, subtraction, multiplication, and division of whole numbers in order to:

- develop meaning for the operations by acting on objects and discussing a rich variety of problem situations;
- relate the mathematics language and symbolism of operations to real problem situations and informal language;
- recognize that a wide variety of problem structures can be represented by a single operation;
- develop operation sense.

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Whole Number Computation

The purpose of computation is to solve problems. Although computation is important in mathematics and in daily life, our technological age requires us to rethink how computation is done today. Almost all complex computation today is done by calculators and computers. In many daily situations, answers are computed mentally or estimates are sufficient. There are also times when paper-and-pencil algorithms are useful. It is important for children to know a variety of methods of computation and for teachers to have reasonable expectations regarding proficiency.

Sunday
Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sun.
Mon.
Tues.
Wed.
Thurs.
Fri.
Sat.

Clearly, paper-and-pencil computation cannot continue to dominate the curriculum or there will be insufficient time for children to learn other, more important mathematics they need now and in the future. Isolated paper-and-pencil drill and premature expectations of mastery are inconsistent with the standards cause poor retention and require large amounts of time for reteaching. By emphasizing underlying concepts, having children use physical materials, linking manipulation of objects to steps of the procedures, and developing thinking patterns, teachers can help children develop knowledge of basic facts and algorithms in a meaningful way. Rather than rote memorizing nonsense, children can construct computational facts using objects. Research indicates the conceptual approach results in better retention and because children will not have to relearn what they memorized and forgot, the amount of time to learn computation is reduced in the long run.

In the primary program, the child is provided with numerous opportunities to develop whole number computation in order to:

- model, explain, and develop reasonable proficiency with basic facts in application settings using a variety of manipulative objects;
- use a variety of mental computation and estimation techniques;
- use calculators in appropriate computational situations;
- select and use computation techniques appropriate to specific problems and determine whether the results are reasonable.

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Geometry and Spatial Sense

Geometry helps us represent and describe in an orderly manner the world in which we live. Children are naturally interested in the spatial activities and find them intriguing and motivating. Some of the first relationships that children build are spatial, e.g., concepts such as inside, outside, next to, over, under, etc. Since their early spatial abilities frequently exceed numerical skills, tapping on these strengths forms a basis for the development of other mathematical ideas.

Spatial understandings are necessary for interpreting, understanding, and appreciating our inherently geometric world. Children who develop a strong spatial sense are better prepared to develop concepts of number and measurement.

In developing geometric understandings, children need to investigate, experiment, and explore with everyday objects and other physical materials. As children work with a variety of objects such as blocks and geoboards, they learn about the properties of shapes. Folding and cutting paper shapes and using mirrors develops concepts of symmetry. Activities that ask children to visualize, draw, and compare objects in various positions help develop spatial sense.

Language (terminology, shape names, etc.) should not be the focus but should grow naturally out of experiences with objects. Of particular importance is having children draw from real objects because this helps children construct spatial relationships. Drawing should be part of learning activities each day.

thor's
Chair

In the primary program, the child is provided with numerous opportunities to use two and three-dimensional geometry in order to:

- describe, model, draw, and classify shapes;
- investigate and predict the results of combining, subdividing, and changing shapes;
- develop spatial sense by constructing arrangements in space; drawing objects in various positions; observing effects of rotations and displacements; and imagining how objects would look from different points of view;
- relate geometric ideas to number and measurement ideas;
- recognize and appreciate geometry in the world.

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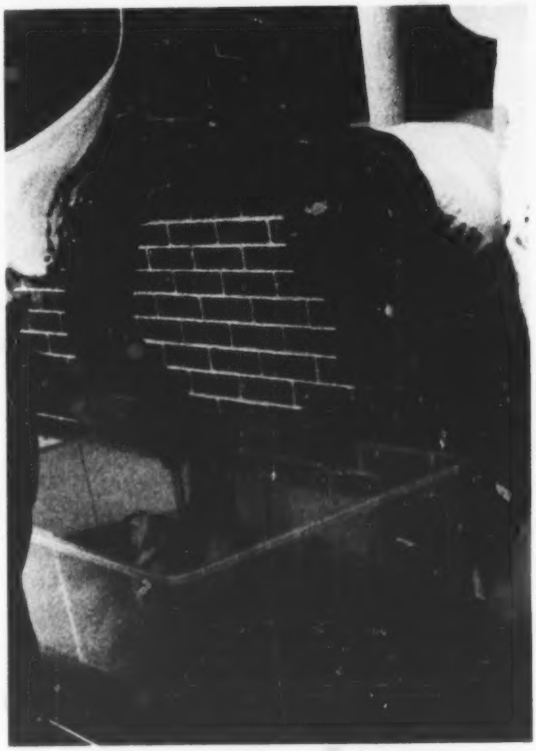
Measurement



Measurement is important because of its usefulness in every day life. At the primary level emphasis is placed on developing a foundation in the basic concepts underlying measurement. Children need to understand the attribute being measured as well as what it means to measure. Before they are capable of such understanding, they must first experience a variety of activities that focus on comparing objects directly, covering them with various units, and counting the units.

If children's initial explorations use nonstandard units, they will develop some understandings about units and come to recognize the necessity of standard units in order to communicate. This process, however, cannot be rushed. **Premature use of instruments (such as rulers) and formulas leaves children without the understanding necessary to solve measurement problems.** If a child does not yet conserve length (thinks that a stick gets longer or shorter depending upon how it looks), what sense can measuring with a ruler make?

Estimation activities should be integrated throughout measurement. The child should first estimate and then verify with real objects. Textbook exercises cannot substitute for activities that answer meaningful questions about real problems.

In the primary program, the child is provided with numerous opportunities to use measurement is order to:

- understand the attributes of length, capacity, mass (weight), area, time, and temperature;
- develop the process of measuring and concepts related to units of measurement;
- make and use estimates of measurement;
- make and use measurements in every day situations.

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Data Analysis

Collecting, organizing, describing, displaying, and interpreting data, as well as making decisions and predictions on the basis of that information are important skills in our society. These processes are particularly appropriate for young children because they can be used to solve problems that are inherently interesting and offer rich opportunities for mathematical inquiry.

Graphing is a natural outgrowth of many activities. As children arrange and group objects, they often spontaneously line them up in one-to-one correspondences. A next step would be to represent the objects with pictures and later symbols. Young children should be encouraged to construct their own graphic representations of objects rather than being given adult formats to fill in.

Children are very interested in information about themselves. An appropriate group activity is the collection of data such as, "What are our favorite ice cream flavors?" "What pets do we own?" or any number of characteristics such as eye color, gender, etc. Class graphs can give children a sense of the group characteristics as well as experience with representing data.

In the primary program, mathematics should include experiences with data analysis and probability so students can:

- collect, organize, and describe data;
- construct, read, and interpret displays of data (such as graphs);
- formulate and solve problems that involve collecting and analyzing data.

What color is your

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Common Fractions

Fractions represent an extension of the child's knowledge about number. Experiences that children have in the early levels form a foundation for symbolic work with fractions in the upper grades.

All work with fractions at the primary level should involve situations of everyday life that can be easily modeled with real objects. Children have usually had experiences with sharing jellybeans or dividing a candy bar among friends. Subdivision of a whole into equal parts is fundamental to understanding fractions. Children can engage in many types of activities to develop an understanding of subdivision, e.g., folding and cutting paper strips.

Symbols are introduced only after children have developed the concepts and oral language necessary for symbols to be meaningful and should be connected to concrete objects and to oral language.

In the primary program, the child is provided with numerous opportunities to use fractions

- develop concepts of common fractions using manipulatives and real materials;
- develop number sense for common fractions;
- use models to explore equivalent fractions;
- apply fractions to problem situations.

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Descriptors of Learning in Mathematics

Early Primary	Later Primary
ATTITUDES	
The child: • develops confidence in using mathematics meaningfully; • recognizes and appreciates mathematics in the world; • applies mathematics to everyday problems; • enjoys participating in mathematics activities.	The child: • develops confidence in using mathematics meaningfully; • recognizes and appreciates mathematics in the world; • applies mathematics to everyday problems; • enjoys participating in mathematics activities.
CONCEPTS AND PROCESSES	
Mathematics as Problem Solving The child: • formulates problems from everyday and mathematical situations; • recognizes and restates problem using objects, pictures, or words; • clarifies problem by asking questions; • solves problems by acting out, making a diagram or constructing a model.	The child: • formulates problems from everyday and mathematical situations; • recognizes and restates problem using objects, pictures, or words, and number sentences; • clarifies problems by exploring alternate interpretations; • solves problems by making a pattern, guess and check, or by writing and solving number sentences; • verifies and interprets results of problem solving; • uses a calculator (where appropriate) to solve problems.

Descriptors of Learning in Mathematics

Early Primary	Later Primary
CONCEPTS AND PROCESSES	
Mathematics as Communication The child: • relates concrete materials to mathematical ideas; • relates pictures and diagrams to mathematical ideas; • relates everyday language to mathematical language and symbols.	The child: • relates pictures and diagrams to mathematical ideas; • relates everyday language to mathematical language and symbols; • makes connections among concrete, pictorial, and symbolic abstract representations of mathematical ideas; • reflects on and clarifies thinking about mathematical ideas.
Mathematics as Reasoning The child: • demonstrates confidence in ability to reason and justify thinking; • sees logic and believes that mathematics makes sense.	The child: • demonstrates confidence in ability to reason and justify thinking; • sees logic and believes that mathematics makes sense.
Mathematics as Connections The child: • connects own knowledge with new ideas; • uses mathematics in daily life; • uses mathematics in other curriculum areas.	The child • connects own knowledge with new ideas; • uses mathematics in daily life; • uses mathematics in other curriculum areas; • recognizes relationships among different topics in mathematics.

Descriptors of Learning in Mathematics

Early Primary	Later Primary
CONCEPTS AND PROCESSES	
Patterns and Relationships **Patterns** The child: • recognizes, describes, and creates patterns; • reverses, extends, and inserts objects into patterns.	The child: • recognizes patterns in real life and in mathematics (e.g., geometric patterns); • identifies, describes, extends and creates patterns with numbers.
Relations The child: • compares objects according to size (e.g., larger, smaller); • orders objects according to magnitude of characteristic (length, size, amount).	The child: • inserts elements into the appropriate position in an ordered series; • makes correspondences between ordered series and relates elements to ordinal number; • orders objects by mass (using a balance); by internal volume (by pouring).
Classification The child: • makes arrangements of objects; • recognizes a common characteristic in a group of objects; • groups by single attribute and describes criteria.	The child: • classifies objects by several attributes; maintains consistent criteria; • develops class-inclusion (part-whole relationships among classes).

Descriptors of Learning in Mathematics

Early Primary	Later Primary
CONCEPTS AND PROCESSES	
Estimation The child: • explores estimation strategies; • estimates small numbers of objects and verifies by counting; • uses estimation in problem solving.	The child: • explores estimation strategies; • recognizes when an estimate is appropriate; • uses estimation to check computation; • determines reasonableness of results; • applies estimation in working with quantities, measurements, computation, and problem solving.
Number Sense and Numeration The child: • develops one-to-one correspondence among sets of objects, creates equivalent groups; • relates a single numeral to a group of objects, uses number words; • counts forward and backward; • uses ordinal numbers; • compares groups using "more," "fewer;" • estimates number and checks by counting and grouping; • applies the use of number to everyday situations.	The child: • counts larger numbers, skip counts; • relates numerals to numbers of objects; • realizes that a given number of objects remains constant regardless of arrangement (conserves number); • demonstrates understanding of the numeration system; • refines estimates and checks by counting and grouping; • groups objects by fives, tens; • develops concept of place value (including regrouping) using concrete materials and symbols.

Descriptors of Learning in Mathematics

Early Primary	Later Primary
CONCEPTS AND PROCESSES	
Concepts of Whole Number Operations and Computation The child: • demonstrates processes of addition and subtraction by combining and separating objects; • explores possible combinations for a given number of objects; • records combinations by drawing, stamping or pasting objects; • solves simple verbal problems involving addition and subtraction with objects.	The child: • demonstrates processes of addition and subtraction by combining and separating objects; • constructs and demonstrates knowledge of combinations for numbers (to ten and beyond); • records combinations by drawing and writing stories; • develops understanding of terminology (add, take away, plus, minus, equals) in problem-solving contests; • reads and write expressions and number sentences in horizontal and vertical formats; • creates and solves addition and sub traction problems of various structures (e.g., sums, how many more, how many left, difference, multi-step problems); • creates, solves, writes and illustrates own story problems; • finds and records sum of several one-digit numbers; • using objects, finds and records sum of two-digit numbers with and without regrouping.

Descriptors of Learning in Mathematics

Early Primary	Later Primary
CONCEPTS AND PROCESSES	
Concepts of Whole Number Operations and Computation (cont'd)	The child: • explores multiplication and division by creating arrays, sharing, and repeated addition of objects; • records multiplication and division of single digits by drawing and writing.
Geometry and Spatial Sense The child: • builds, describes and draws spatial arrangements of objects; • sees part-whole relationships in whole objects among groups of objects; • matches two-dimensional arrangement; • identifies, describes, models, draws, and classifies plane figures; • classifies 3-D shapes informally; • explores and develops spatial relationships such as inside/outside, top/bottom, above/below, between, next to, etc.; • develops relationships of order in space; • begins to draw overlapping objects; • recognizes geometry in the world.	The child: • identifies, describes, models, draws, and classifies polygons; • identifies and describes common 3-D shapes; • classifies 3-D shapes; • sees relationship between plane figures and 3-D shapes; • completes and creates symmetrical figures; • constructs right and left relationships; • graphs on a horizontal or vertical number line; • knows how things would look from another point of view; begins to draw objects in perspective; • knows that an objects does not change in length when its position changes (conserves length).

Descriptors of Learning in Mathematics

Early Primary	Later Primary
CONCEPTS AND PROCESSES	
Measurement The child: • compares lengths and sizes of objects directly; • compares objects on a balance; • estimates, measures, and records length using non-standard units; • compares amounts of liquids using various sizes of containers • describes temperature using relative terms; • explores the values of coins and uses of money in concrete problem-solving situations; • relates concepts of time to experience; • sequences events according to time; e.g. the daily schedule.	The child: • develops understanding of the need for using standard units; • estimates, measures, and records length using standard units; • estimates, measures and records area using concrete materials; • estimates, measures, and records mass of objects using non-standard units; • investigates, estimates, and measures capacity using concrete materials; • describes, reads, and records temperature; • makes change; solves problems involving money; • creates and solves problems involving length, area, mass or capacity; • tells time using a clock.

Descriptors of Learning in Mathematics

Early Primary	Later Primary
CONCEPTS AND PROCESSES	
Data Analysis The child: • collects first-hand data by counting; • sorts, classifies, and displays information using graphs (concrete, pictorial); • reads, discusses, and interprets displayed data.	The child: • collects first-hand data by counting and measuring; • extracts second-had data from presented sources (e.g., tables, lists, visuals, printed resources . . .); • sorts, classifies, and displays information using graphs (pictorial and symbolic); • reads, discusses, and interprets displayed data; • solves problems involving diagrams, tables, graphs.
Common Fractions The child: • develops understanding of sharing by dividing whole objects or groups of objects into equal-sized amounts.	The child: • relates the language of sharing whole objects or groups of objects to common fractions; • recognizes and represents common fractions using objects and by drawing; • compares common fractions using objects or by drawing.

Science

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Science in the Primary Program

> *"If a child is to keep alive his inborn sense of wonder . . . he needs the companionship of at least one adult who can share it, rediscovering with him the joy, excitement, and mystery of the world we live in."*
>
> *Rachael Carson, 1965*

Common Understandings

IT IS INSTINCTIVE for the primary child to search out, describe, and explain patterns of events experienced the natural and physical world. Primary science is based upon exploration. Children develop an understanding of science as they investigate and interact with real objects and phenomena. They are natural scientists: curious, observant, and questioning. Their knowledge of science grows out of an attempt to find meaning in their environment.

Children make sense of the world by relating new experiences to some prior knowledge. They organize their unique experiences in ways that make sense to them, such as the following:

- objects have particular size, color, shape, and texture;
- objects float, sink, roll, live, and grow; and
- living things change form as they grow and develop.

Children need opportunities to present their views to other children and adults. By exchanging opinions with others, children begin to move from an egocentric point of view and compare their views with those of others. They relate their concepts of what happens in school science to what happens in their personal experience. Their concepts about the natural world are expanded and enhanced through sharing of experiences.

The science curriculum provides for a balance among the dimensions and disciplines of and the approaches to science education for primary children. The development of attitudes, skills, processes, knowledge, and understanding is given equal emphasis. The curriculum provides for a balance among the three broad disciplines of biological science, physical science, and earth/space science. Each year children should have experiences in each of these disciplines.

A balanced approach should remain during the primary years with topic areas addressed at different points and in a variety of ways. Schools should plan experiences to avoid duplication of learning activities. The curriculum, the resources that support it, and the programs and activities that are developed in classrooms should together describe a balance in approaches to instruction. These approaches should include hands-on, activity-centered experiences that consider the interests, abilities, and needs of children.

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Science as an Integral Part of the Primary Program

Thematic units of study are used in many primary classrooms to explore ideas and develop understanding. In designing a theme, a teacher considers a number of curricular areas, developing relationships among disciplines to provide for greater meaning and relevance. For example, in a science theme about "color," children could explore the possibilities in literature, poetry, writing, speaking, visual art, music, and movement, in addition to science. Thus, the teacher satisfies a multitude of curricular objectives within a single theme.

Where to Begin?

A child might bring something to school that has the potential for some science study and that catches the interest of the class. Children might generate lists of what they already know about the item and what they would like to find out. Thus, the teacher embarks upon a topic or theme with the class that arises from the interests of the children. When developing the theme, the teacher plans experiences that enhance development in each of the dimensions of science, attitudes, skills, and knowledge, and which address the three broad disciplines of biological, physical, and earth/space science.

For example, a "spring" theme suggests:

Biological science
- plants and seeds
- young animals
- tadpoles

Physical science
- water
- longer days

Earth/space science
- rain

The teacher might review and evaluate topics from past years to assess the selection of topics and themes. The topics are examined to determine how the curriculum should be adjusted to retain the balance among the science disciplines, among the dimensions of science, and among the approaches to instruction.

Considerations

- **Science for all students.** Early impressions about who learns and does science appear to be persistent and lasting. Science should be modeled as an activity involving all kinds of people and affecting all people in their daily lives. Models that are free of gender and ethnic bias should be provided for all.
- **Science/technology/society connection**. Science is not something that happens in a book, on a screen, or in a laboratory far away. It is part of the everyday experience. Advances in science have made possible the technology accessible to us; technology has made marked changes to the society in which we live. Society's demands have encouraged further technological and scientific development, some considered beneficial, others not. There are many issues and points of view to be considered for every topic, and children should be assisted in recognizing that there are many consequences to decisions and to progress.
- **Experimentation.** The active process of science is learned, not taught. Children should be provided with a variety of opportunities for playing, questioning, exploring, demonstrating, investigating, and experimenting. Each of these approaches can be appropriate for different children of different interests and abilities, using a variety of themes. Some of these approaches have implications for materials, supplies, and equipment that must be readily available to the children..
- **Resources**. The curriculum supports each child at his or her level of interest, ability, and comfort with science. The resources, too, must support the flexibility and variety of the curriculum. It is neither possible nor desirable to anticipate resources for the entire range of interests that could arise. However, the teacher should feel supported by enough quality materials to begin to provide for a range of interests and abilities, as well as feel encouraged to identify, acquire, and develop resources to more fully meet the needs of children. When designing a combination most appropriate to the needs of the children, the teacher should consult a range of sources including resources of the school and district, organizations and associations, and commercial suppliers. The need for resources extends to supplies and equipment for daily classroom use.

Learning Through Science

Science Content and Possibilities

There are numerous sources of science content on which teachers can draw. Topics should also be generated by the children, reflecting their interests and concerns. These are perhaps the most dynamic sources of content. A balance of content should be selected for science activities. Experiences should include topics in the biological, physical, and earth/space sciences. Content possibilities include:

Biological Science

Living Things	You and Your Body	You and the Environment
Plants	Food/nutrition	Animal communities
Growing seeds	Senses	Pond life
Plants and seasons	Ourselves	Grasslands
Animal behavior	Your body	Woodlands
Animals and seasons	Health	Recycling
Animal babies	Drugs	Endangered animals
Aquatic studies		Rain forests
Farming and seasons		

Physical Science

Properties of Matter	Heat and Temperature	Light and Color
Solids, liquids, gases	Ice cubes	Light
Water play	Hot and cold	Shadows
Changes in matter	Melting	Rainbows
Magnets	Freezing	
Simple machines		

Earth and Space Science

Earth Materials	Atmosphere and Weather	Astronomy and Space
Soil	Air and wind	Day and night
Rocks	Air pressure	The moon
Minerals	Kites	Sunlight
Fossils	Weather	Things in space
Water	Seasons	Planets
		U.S. space program
		Satellites

Active Learning in Science

Themes and supporting activities should be:

- **Learner-centered**. At the heart of the primary program, the study of primary science should be linked to the child's interests. Children construct their own meanings from their experiences in order to make sense of the world around them. By incorporating their ideas into instructional strategies, it becomes possible for teachers to guide children toward accommodating their experiences into a more scientific view.
- **Activity-centered**. Concrete, hands-on experiences using everyday objects, children's objects, and outdoor experiences permit children to construct their own realistic understanding of what science is. Approaches should include the use of real-life experiences and manipulation of materials and equipment. Access to a variety of living things encourages attitudes of caring and responsibility.
- **Modeled by teachers.** The importance of modeling a positive attitude toward science has been well documented. Open-minded, enthusiastic teachers who encourage science to happen foster those attitudes in children. In this way, all children may be challenged to pursue their interests to the fullness of their potential. The different approaches of diverse cultures and the contributions made by different societies, including those of U.S. scientists, should be integral to science programs.

Learning Dimensions in Primary Science

Science supports each of the goals of the primary program in several ways. Science activities stimulate both cognitive and affective growth and development in children. The investigative nature of science is conveyed through inductive, concrete, and manipulative learning experiences. These experiences stimulate curiosity, inquiry, and problem solving. Science experiences also encourage scientific attitudes, develop the ability to use the processes and skills of science, introduce a body of scientific knowledge, and promote critical, rational, and creative thinking.

The following dimensions of primary science education are from the British Columbia curriculum revised in 1981.

Attitudes: The primary program provides opportunities for the learner to develop appropriate attitudes toward science:

- Awareness and appreciation of science–interest in science and its relationship to the world and the future; e.g., the child interacts respectfully in support of the local environment;
- Curiosity—to question and to persevere in seeking solutions; e.g., the child observes and questions the ongoing changes in the growth of sugar crystals; and
- Adaptability in a changing world—a willingness to expect and accept scientific change; e.g., the child modifies pre-conceptions on the basis of school experiences in science.

Processes and Skills: The primary program provides opportunities for children to develop the skills and processes of science:

Processes

- Observation—the perception of characteristics, similarities, differences, and changes through use of the senses; e.g., the child uses the senses to describe and distinguish among common rocks, foods, etc.
- Classification—the organization of materials, events, and phenomena into logical groupings. At first, classification is a sorting process; e.g., the child sorts a group of blocks into sets according to common characteristics. Later, the child develops multi-stage sets and subsets to categorize different insects.
- Quantification—comparison of objects or events to standards of length, area, volume, mass, temperature, and time; e.g., the child measures each day's growth of sprouting seeds.
- Communication—presentation and explanation to others of objects or events, using various media. This communication is often in the form of diagrams, numbers, or graphs; e.g., using charts and graphs, the child explains similarities and differences among various seeds and their growth.
- Inference—the derivation of premises or conclusions concerning data, using past experience. Inferring from a set of data may lead to several non-conclusive inferences; e.g., the child suggests an explanation as to why frost remains longer on some areas of the school yard.

Skills

- Safe and appropriate use of equipment, materials, and techniques; e.g., the child handles the classroom hamster in a careful manner.
- The location, organization, and documentation of information; e.g., the child organizes a science presentation using displays, posters, and an oral report.
- The selection and use of methods to solve problems; e.g., the child investigates the problem of how to make a better ice-cube melter.

Thinking Skills

The primary program provides opportunities for children to develop thinking skills:

- Creativity—fluency in generating a number of ideas or solutions, flexibility in generating a wide variety of ideas, originality in generating unique ideas or solutions; e.g., the child suggests different uses for a cup.
- Rationality—the ability to look for natural causes of events; e.g., the child investigates causes of change in shadows over the course of a day; critical thinking—the ability to identify central issues, to recognize underlying assumptions, and to evaluate evidence. The child should be able to recognize stereotypes and biases, to identify essential, variable, and adequate data and to draw conclusions; e.g., the child is able to suggest some benefits and problems associated with the transportation of industrial chemicals.

Knowledge

The primary program provides opportunities for children to develop scientific knowledge:

- Facts and concepts, e.g., the child describes the body parts of a spider;
- Scientific vocabulary; e.g., the child uses the words *melting, freezing, evaporation,* and *condensing;*
- Relationships among various scientific disciplines, e.g., the child recognizes the effects of cold seen in animal behavior, in the freezing of water, and in the weathering of rocks;
- The history and nature of science, particularly in the American context, e.g., the child investigates Thomas Edison's contribution to the utilization of electricity in the U.S.; and
- The applications and limitations of science in the practical world, e.g., the child recognizes that science has provided immunization for many childhood diseases, although colds and flus persist.

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Descriptors of Learning in Science

Early Primary	Later Primary
Attitudes **Biological, Physical, and Earth/Space**	
The child:	The child:
• demonstrates curiosity about and interest in the natural world:	• demonstrates curiosity about and interest in the natural world:
- asks questions and brings objects of a scientific nature and handles them with respect and enjoyment;	- perseveres in seeking solutions to questions of a scientific nature (e.g., observes and questions changes in the growth of sugar crystals);
• demonstrates an appreciation of the patterns and diversity of the natural world:	• demonstrates an appreciation of the patterns and diversity of the natural world:
- is aware of patterns found in nature (e.g., patterns in a leaf, day and night);	- investigates and applies knowledge of pattern to new situations (e.g., cycle of the moon, poetry, print-making, pattern in story);
• demonstrates safety measures when handling materials and equipment (e.g., uses care in handling magnifying glass);	• demonstrates safety measures when handling materials and equipment (e.g., uses proper procedures when using microscope);
• demonstrates a positive attitude toward the environment:	• demonstrates a positive attitude towards the environment:
- shows care and concern for the immediate environment;	- adjusts behavior to reflect a wider environmental consciousness;
• demonstrates receptivity to change (e.g., shares early conceptions about the natural world).	• demonstrates receptively to change and other points of view:
	- expects and accepts scientific change (e.g., modifies preconceptions on the basis of experiences in science).
Skills **Biological, Physical, and Earth/Space**	
The child:	The child:
• observes characteristics, similarities, differences, and changes:	• observes characteristics, similarities, differences, and charges:
- notes and discusses differences in materials, events, and phenomena.	- notes/records differences, similarities, commonalities in materials, events, phenomena.

Descriptors of Learning in Science

Early Primary	Later Primary
Skills **Biological, Physical, and Earth/Space**	
The child:	The child:
• classifies materials, events, and phenomena:	• classifies materials, events, and phenomena:
- sorts according to non-traditional criteria (e.g., like/dislike, color, size, simple patterns);	- sorts and verbalizes according to standard criteria (e.g., texture, mass, structure);
• quantifies according to length, area, volume, mass, temperature and time:	• quantifies according to length, area, volume, mass, temperature and time:
- measures using non-traditional units (e.g., uses unit blocks to measure self and others);	- measures and records using standard units (e.g., measuring temperature in degrees Fahrenheit, graphing over a period of time);
• manipulates materials, supplies, and equipment safely and appropriately to the investigation (e.g., uses eye dropper appropriately to mix colored liquids);	• manipulates materials, supplies, and equipment safely and appropriately to the investigation (e.g., uses the balance scale to determine mass of different materials);
• communicates information in a variety of ways:	• communicates information in a variety of ways:
- presents information by talking, drawing, building, dramatizing, etc.;	- presents information using charts, graphs, models, etc.;
• draws inferences from prior knowledge and experiences and makes predictions:	• draws inferences from prior knowledge and experiences and makes predictions:
- explanations are based on direct observation and concrete experience;	- hypothesizes from experiences and observations;
• demonstrates the ability to look for natural causes of events [rationality] (e.g., investigates the formation of shadows);	• demonstrates ability to look for natural causes of events [rationality] (e.g., relates the length and the position of the shadow to the time of day);
• demonstrates creativity and critical thinking when exploring science problems:	• demonstrates creativity and critical thinking when exploring science problem:
- generates a variety of unique ideas and solutions;	- evaluates evidence, draws conclusions and takes appropriate action (e.g., based on evidence gathered through scientific exploration, child creates and suggests means by which school can reduce its paper consumption).
- selects from generated ideas and solutions, and defends selections.	

Descriptors of Learning in Science

Early Primary	Later Primary
Knowledge **Biological, Physical, and Earth/Space**	
The child:	The child:
• demonstrates an understanding of the relevant facts and concepts of the scientific world;	• demonstrates an understanding of the relevant facts and concepts of the scientific world;
• understands the needs of living things:	• understands the needs of living things:
- describes the basic needs of plants and animals;	- understands and discusses the relationships between and among living things;
• describes physical properties of common materials and phenomena:	• describes physical properties of common materials and phenomena:
- uses simple terms to describe properties (e.g., bright, dull, color);	- uses scientific terms to describe properties (e.g., opaque, translucent, transparent);
• gains understanding of the natural world and its operation:	• gains understanding of the natural world and its operations:
- uses simple terms to describe immediate environment (e.g., "water changes to ice when it gets cold");	- discusses the scientific concepts evident in the immediate environment (e.g., "water freezes at 32° Fahrenheit");
• uses appropriate scientific vocabulary related to topics being explored:	• uses appropriate scientific vocabulary related to topics being explored:
- names parts of a plant (e.g., tree, trunk, bark, leaf, etc.);	- uses proper scientific names (e.g., deciduous, conifer, etc.);
• demonstrates awareness of the relationships among the science disciplines (e.g., how life would be different if we could control weather);	• demonstrates awareness of the relationships among the science disciplines (e.g., recognizing effects of cold in animal behavior, in freezing of water, and weathering of rocks);
• demonstrates knowledge of the nature of science (e.g., science is a means of learning about the world around us);	• demonstrates knowledge of the nature and history of science;
• recognizes the applications and limitations of science in the practical world (e.g., refrigeration preserves food but only for a limited time).	• recognizes the applications and limitations of science in the practical world (e.g., science has provided immunization for many diseases, while colds and flus persist).

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  - Teacher initiated, teacher planned and supported
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  - Teacher initiated, teacher and child planned and supported
- Water Study
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  - Team planned and supported
- Spiders
  - An individual or small group study
  - Child initiated, planned, and directed
  - Teacher supported

References and Resources

Integrated Studies

Active Learning in the Classroom: Common Understandings

This section provides examples of ways to structure classroom activities so that children are actively involved. By using these approaches, favorite lessons and topics can be transformed into opportunities for children to plan and direct their learning with the teacher's support and guidance. The view of learning in the primary program is based on these important principles.

- Learning requires the active participation of the learner.
- People learn in a variety of ways and at different rates.
- Learning is both an individual process and a social process.
- An active learning classroom is characterized by:
  - children choosing from available activities, materials, and experiences for substantial portions of the day;
  - meaningful, learner-centered experiences;
  - opportunities to touch, manipulate, and experiment;
  - opportunities to ask questions, solve problems, and think independently;
  - a range of expectations for all children;
  - extensive talking, reading, and writing;
  - opportunities to make decisions and to be creative;
  - respect and trust for the learner;
  - adults learning along with children;
  - opportunities to learn from mistakes;
  - integration of content areas; and
  - assessment as part of the daily routine.

Planning for an Integrated Curriculum

The primary program advocates learning experiences which are relevant, purposeful, and worthwhile. If experiences are to engage children, they need to be shaped by children's interest and enthusiasm. This means choosing themes, topics, projects, or areas of study based on the knowledge children have and constructing a plan which is driven by the children's curiosity. This does not mean an undirected, ever-changing, scavenger hunt in search of answers to the question of the day. The children's need for inquiry becomes the vehicle for the integration. The teacher's responsibility is to construct the plan which will provide the scope and depth necessary to ensure a valuable educational experience for all children. To provide direction and balance, a teacher needs to make long range or yearly plans which can be reviewed and adjusted throughout the year. A long-term plan should consider:

- the children's strengths and interests;
- the teacher's strengths and interests;
- the goals of the primary program;
- assessment and evaluation; and
- school and community resources.

Children's Strengths and Interests

Beginning the year with a unit, theme, or topic such as "Me" or "Getting to Know You" allows the teacher and children to learn about one another and discover shared interests. While the class is learning about one another, the teacher and children can agree upon the routines necessary to facilitate a harmonious classroom. Involving children in arranging and decorating the classroom, setting up storage systems, and suggesting topics builds the foundation for motivation and commitment to one another. Many teachers find a class brainstorming session to determine areas of interest is an essential first step in establishing a learner-focused curriculum. These suggestions may be listed, prioritized, displayed, and revisited during the year.

The key factor is inviting all class members, including the teacher, to provide suggestions and participate in developing a list of agreed upon topics for study. This list becomes the starting place for the teacher in planning activities and experiences which provide a balance of content and process.

The Teacher's Strengths and Interests

Just as children's wonder and joy drives their learning, so can the teacher's interests and enthusiasm. Children need to see their teachers as learners and as human beings. The teacher's willingness to share what he or she values shows the children that learning is a lifelong activity and that their teacher is a person who thinks and feels and cares.

In long range planning, teachers need to ask: How can I use my interests and talents to enhance learning and still incorporate the children's interests? What contributions can I make by sharing? Such sharing may include:

- personal culture,
- love of literature,
- struggles with writing,
- interest in sciences,
- recreational activities,
- interest and talent in fine arts, and
- an inquiring attitude.

Goals of the Primary Program

Planning for an integrated curriculum begins with a consideration of children's needs, interests, questions, prior knowledge, and experiences. The goals and the curriculum areas of the primary program will guide the teacher's planning. The learning dimensions (attitudes, skills, and knowledge) in each curriculum area also need to be considered when negotiating projects, themes, or topics of study with the children. The teacher weaves knowledge of the curriculum and the interests of children into the fabric of the classroom curriculum.

It is important to note that not all goals or curriculum areas can be emphasized equally in every project, theme, or topic of study. However, the teacher ensures that a balance of experiences related to the goals and curriculum areas of the program is achieved over the course of the year. Throughout the year, at the conclusion of each project, theme, or topic, this balance is considered as part of ongoing evaluation and planning.

As the teacher plans appropriate learning experiences, it becomes obvious that not all curriculum content can be explored in an integrated way. For example, the introduction of place value in mathematics need not be related to the project and might better be taught using concrete materials designed specifically for enhancing development of concepts in mathematics. Once understood, the concept of place value could subsequently be integrated into other activities and its connections in the "real world" highlighted.

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To make the curriculum come alive for the children and the teacher, the project, theme, or topic of study must be something children see as purposeful and worthwhile. Their interest will then provide the motivation to inquire, to represent, and reflect upon their learning. The need to communicate and share information creates the context through which meaning is constructed and skills and processes are developed and practiced.

Assessment and Evaluation

In making a long range plan for assessment and evaluation, the teacher needs to establish a system which facilitates:

- all children being considered on a regular basis;
- information being collected on all goal and curriculum areas;
- information being recorded and stored;
- children being involved in the process; and
- sharing and transferring information.

A long range plan for assessment and evaluation also needs to include ongoing questioning of how the information gained through interaction with children can be used to enhance, modify, and adapt further assessment, the curriculum, and the environment.

School and Community Resources

Creating an environment that facilitates learning requires taking advantage of the available resources. ***Human resources***, the people who make up the educational community; ***materials and equipment***, the things we need to organize and accomplish the enterprise; and ***physical resources***, the layout of the classroom, school, and community environment, are all factors that need to be considered. Questions teachers may have to consider to plan for the optimum use of resources can be organized according to these categories.

Human Resources

Who are the people who can support and enhance the learning experience?

- children
- parents
- community
- teacher-librarian
- learning assistance teacher
- district personnel
- specialist teachers

What cultures are represented in the community? What organizations could connect with our class, e.g., multicultural societies, ethnic organizations, fine arts groups, service clubs, senior citizens, and elderly care facilities?

Materials and Equipment

What materials are available?

- classroom
- school
- district
- child's home
- community

An inventory of what is available may also form the basis for a "wish list" of materials and equipment necessary for organization or activities. Such lists are most successful when staff members collaborate to make the list of the items. In this way, a plan can be developed to build upon available resources.

Physical Facilities

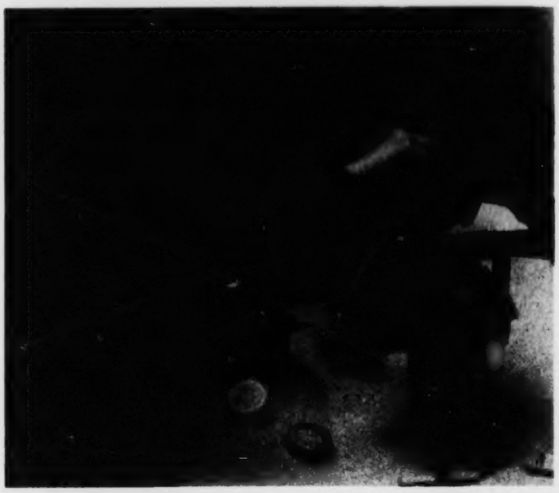
What space is available in the classroom and what is its best use? (Many teachers find that developing a partnership with another teacher to help one another with this task is a profitable, time-saving endeavor. Children, too, have valuable insights into how space can be arranged.

What areas are available in the school?

- multi-purpose room
- gymnasium
- storage areas

What community facilities are available?
- library
- museum
- gymnasium
- outdoor arena

What features of the natural environment could facilitate learning?
- weather
- geography
- natural resources
- historic sites



Daily Planning

As teachers plan for daily learning experiences, it is important that these plans remain flexible to reflect and accommodate changing needs and priorities, teachable moments, happenings in the school and neighborhood, unexpected visitors, and other unanticipated circumstances. When planning, consideration should be given to the following:

- stages of development and unique needs of children;

- pre-scheduled blocks of time, e.g., library, gymnasium, computer lab;

- curriculum in the primary program:
  - longer blocks of time to allow for integrated studies;
  - areas of curriculum which do not integrate naturally, e.g., mathematics does not always integrate with themes or topics of study;
  - areas of curriculum which may be taught by specialists, e.g., Spanish, music;
  - a balance of curriculum areas over a week, month, etc.;

- experiences on a daily basis including:
  - personal writing (journals, etc.)
  - reading independently (SSR, DEAR);
  - physical activity;
  - mathematical experiences;
  - play;
  - reflection time;

- a balance of activities including:
  - large group, small group, and individual;
  - teacher-directed, child-initiated;
  - less active, more active;
  - teacher input, child input;

- whole class instruction for specific skills or processes, e.g., use of microscopes, class routines and expectations;
- input from children about the daily plan;
- establishing daily routines which provide a framework for expectations regarding daily/weekly activities;
- physical movement and active involvement in learning experiences;
- time to reflect upon new learnings, unsolved problems, feelings, future learning needs and goals;
- daily opportunities for teacher observation;
- learning with other teachers and "buddying" with other classes;
- parents as participants in the classroom;
- accommodating differing dismissal schedules, e.g., half-day, first year students;
- repetition of daily routines and schedule where possible; and
- flexibility to accommodate changes such as a longer attention span, increasing repertoire of skills and knowledge, greater independence, changing attitudes, etc.

Sample 1

9:00 a.m.	**Group Time** - Opening Activities	
9:15 a.m.	**Writing Time**–Personal writing, journals, logs, etc.	
9:30 a.m.	**Integrated Studies*** - Themes, projects, topics of study - Centers - Curriculum blocks - Writing process - Library	* mathematics, language arts, physical education, social studies, science, fine arts, responsible living
10:30 a.m.	**Outside Time**	
10:45 a.m.	**Literature**–Teacher reads to children	
11:00 a.m.	**Physical Activity Time**	
11:30 a.m.	**Integrated Studies** (Dismissal of half-day children)	
12:00 p.m.	**Noon Hour** (lunch, outside)	
1:00 p.m.	**SSR** (Silent Sustained Reading) or **DEAR** (Drop Everything and Read)	
1:20 p.m.	**Integrated Studies**	
2:40 p.m.	**Group Time**–Reflection and closing activities	
3:00 p.m.	**Dismissal**	

Sample Daily Plans

Sample 2

9:00 a.m.	**Buddy Reading**–children come in and begin reading with a buddy.
9:15 a.m.	**Shared Reading Experience**–the piece of literature is related to a theme, project, or topic.
9:30 a.m.	**Reader's Response**–in their response logs, students address literature which has been read in a variety of ways.
9:45 a.m.	**Centers**–are shared between classrooms. Due to a lack of space, some centers are located in hall ways. During center time, children represent their knowledge of the book read during shared reading experience in a variety of ways: painting, modeling, drawing, writing, reading, graphing, puppets, construction.
10:30 a.m.	**Recess**
10:45 a.m.	**Sharing**–Students share their representations. They bring their paintings, plays, poems, etc. and talk about how they have made sense of the story. (*Note:* Children's drawing, painting, coloring or building take different formats based on their developmental levels.) After sharing orally, students return to their response logs and reflect on their learning. Sometimes we use the stem–"What I have learned. What I still wonder about . . . ." Music, drama, gym, and computers integrate into our schedule.
2:00 p.m.	**Integrated Block/Projects**–language arts, science, math, social studies, fine arts, etc.
2:45 p.m.	**Reflections**–"What did you learn today?" "What do you still wonder about?"

Sample 3

8:15 a.m.	**DIRT** (Daily Individual Reading Time) or **personal writing** or **reader's theatre** or **book talks** (sharing why someone might like to read your book) or **buddy reading**
8:45 a.m.	**Sharing of the above**
9:00 a.m.	**Theme work** – reading and writing process – science/social studies/language arts
10:00 a.m.	**Sharing**–children share theme work in small groups
10:15 a.m.	**Integrated block/projects**
11:35 a.m.	**Lunch**
11:55 p.m.	**Shared reading**–"big books," "echo reading"
12:10 p.m.	**Outside play**
12:45 p.m.	**Class meeting**
1:00 p.m.	**Planning time/centers**
1:50 p.m.	**Story**
2:05 p.m.	**Reflections**
2:15 p.m.	**PE/music/library on alternate days**
3:00 p.m.	**Get ready to go home**

Sample 4

8:40 a.m.	Morning Meeting
9:05 a.m.	Choosing Time Must do today ______
9:10 a.m.	Integrated Activities
9:45 a.m.	PE ______
10:10 a.m.	Recess
10:30 a.m.	Integrated Activities
11:00 a.m.	Sharing ______ Music ______ Story ______
11:30 a.m.	Kindergarten children go home
12:00 noon	Lunch
1:00 p.m.	Buddy Reading
1:15 p.m.	Afternoon Meeting Discuss
1:30 p.m.	Integrated Activities Individual Reading Conferences
2:30 p.m.	Clean-up
2:40 p.m.	Sharing ______ Story ______ Other ______
3:00 p.m.	Reflections ______ Reminders ______

NOTES:

[redacted]

Sample 5
Primary Intermediate Classroom

Time	Monday	Tuesday	Wednesday	Thursday	Friday
	News, Day's Agenda »»				
8:55 a.m.	Math	Math	Math	PE	Math
10:30 a.m.	PE	Library		Math	
10:45 a.m.	Recess »»				
	Integrated studies (language arts) Reading, writing, speaking, listening, representing, journal discussion, read aloud, handwriting Fitness–walk/run laps of field				
12:00 noon	Lunch				
1:00 p.m.	SSR/Writing & Conferencing	SSR/Writing &Conferencing	PE	SSR/Writing & Conferencing	SSR/Writing & Conferencing
1:20 p.m.	Projects/Themes, Integrated Science, Social Studies, Fine Arts »»»»»»»»»»»»»»»»»»»»»»»»»»»				
2:45–3:00 p.m.	Reflection–What did we learn today? Questions? I wonder? Direction.				

Sample
Activity Plan

The sample document is to be used as a flexible organizer to help the teacher incorporate theory into practice.

Topic (big idea)
Activity
Materials (list the materials available to the child)
Manipulation (describe the use of the materials)
Choice (what options does the child have?)
Language (opportunities to use words, child-to-child; adult-to-child)
Support (in what ways will adults or peers help the child think about his or her work?)
Time (for exploring, communicating, processing)

Classroom Arrangements

Planning the Classroom Space

In planning how to organize a classroom, a number of considerations may be helpful. Individual teaching styles, children's learning needs and styles, and physical facility will have bearing on classroom arrangements. Involving the children in creating and maintaining the classroom environment helps them develop planning skills, responsibility, and feelings of self-worth. The following is a list of planning suggestions:

> *"Sometimes in our desire to make the learning environment attractive, appealing and orderly, we view what's appropriate from our perspective as adults, but we musn't lose sight of what it is children really need to be doing in order to learn."*
>
> *Joan Hall, 1990.*

- provide a classroom arrangement that reflects the integrated nature of children's learning;
- involve children in planning how to organize the room;
- consider both safety and ease of access when placing furniture and storing materials and equipment;
- consider the best spot to place movable furniture so it can be moved when extra space is required;
- plan space for individual, small and large group activities;
- consider where quiet work areas might be used for conferencing or individual work;
- collaborate with other teachers to share space and/or equipment or even portable centers (sometimes this can be done with an intermediate teacher whose students are buddying with the primary children);
- evaluate the learning environment continuously and adjust the arrangement if students' needs require it; and
- place things to provide an attractive atmosphere.

Classroom Arrangements: Facilitating Learning

Classroom arrangement is an important factor in facilitating children's learning. Even more crucial, however, is the way in which teachers interact with children. While this document includes a section on learning centers, it is recognized that learner-focused programs are not dependent on using the centers model. Having centers is not the key condition for active learning. The essential elements are flexibility, adaptability, and response to children's needs in a supportive climate of inquiry. Building a child-centered program requires more than arranging materials and furniture. It demands that we use our knowledge of children and how they learn to guide our decisions about what tasks we ask children to do. The following chart illustrates the shift from teacher-directed to child-centered learning (Schwartz, S. & Pollishuke, M., 1990, p. 60).

Center Name	Teacher-Directed Tasks	Child-Initiated Tasks
Reading	The teacher selects the stories for the students to read and assigns follow-up tasks.	Students choose their own reading materials from a variety of resources. They fill in their reading record sheets or reading response logs. They may then devise appropriate follow-up work from a list of tasks generated by the students and teacher.
Writing	The teacher assigns a topic for story writing.	Students draw upon personal and classroom experiences and interest to determine their writing topics.
Mathematics	The teacher assigns a math worksheet to be completed.	Students select from a variety of concrete materials and create their own patterns.
Spelling	The teacher assigns a word list and students write their words in alphabetical order.	From personal writing or from a list of words generated about a particular theme studied, students choose several words they do not know how to spell. They experiment with and work with the words in a variety of self-selected activities established by the students and teacher.
Art	Children are shown how to make a bear puppet using paper bags and construction paper.	A wide variety of materials are provided. Children make their own interesting inventions.

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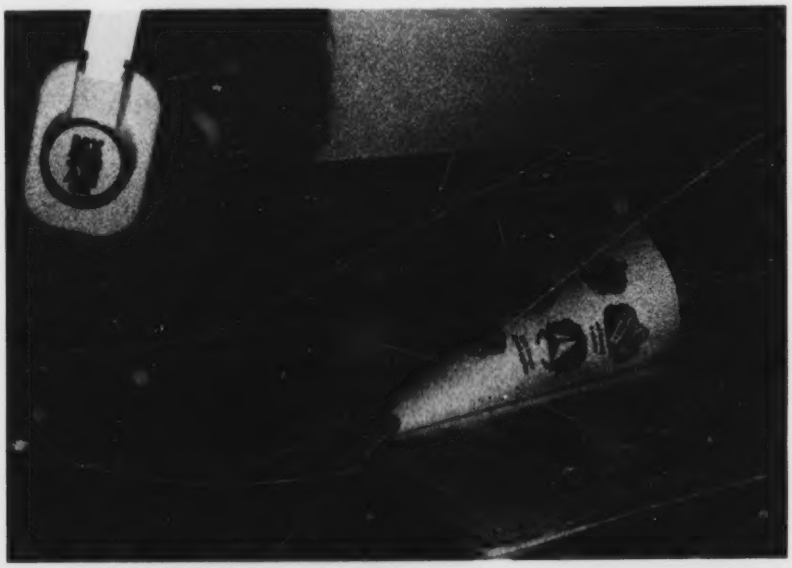

Classroom Arrangements: Learning Centers

Learning centers are one way to provide for individual differences in a classroom. The number of centers set up at any given time will vary according to the teacher's personal style and the children's learning needs. The following suggestions may be useful when planning a learning center:

- Allow children to contribute materials, ideas, questions, and tasks to the center.
- Position the center in a place that is complementary to the activities of other centers around it.
- Vary the complexity and difficulty of the tasks in the center.
- Provide a choice of activities and expectations that acknowledge a variety of learning styles.
- Consider tasks designed for independent learning or small group work.
- Consider current themes and projects.
- Choose tasks that are relevant and meaningful for the children.
- Allow for multiple ways for children to represent their learning.

The number, kind, and content of the centers will vary and change during the year. To facilitate the successful use of centers, teachers may find the following ideas helpful:

- Introduce a new center to the children by explaining the features, points of interest, choices of activities, and any other significant aspects that need special attention. This can be done by the teacher, buddy, or an experienced peer. (One cannot assume that every child will understand what is expected in any given center or that every child will feel bold enough to solve the problem independently.)
- Encourage children to assist in planning and organizing the center.
- Elicit from children strategies for solving problems they may encounter when working in a center (e.g., what to do if the directions are unclear or what to do if there is a problem in sharing equipment).
- Discuss with children expectations of appropriate behavior in the centers. Include their suggestions when clarifying these expectations.

Consideration should be given to where a center is located as well as to what materials it contains. Placement of centers is governed by awareness of safety, interference caused by noise, space available, and movement patterns. Locating centers so that materials and activities of a center facilitate, supplement, and complement those of another center supports integration and allows children to select from and adapt the environment to suit their needs. Children should be given the opportunity to discuss the spaces for the centers and assist in the acquisition and placement of materials. Some possibilities for learning centers are presented in the following section.

Group Meeting Area

This is the place where new ideas and activities are introduced, where familiar activities are reviewed, and where field trips and other experiences are remembered and reflected upon. Parts of the program carried out in this area provide children with fresh input and ideas and with the opportunity to learn or try new things, to predict, to problem-solve, to listen to good literature, to review and enjoy the familiar, and to reflect, talk, and reason about their experiences.

Group Meeting Area

Suggested Activities

- Opening and closing activities
- Class meetings
- Introducing books and sharing good literature
- Learning about food and nutrition
- Planning, discussing, developing language and thinking
- Music, movement, singing, dancing, drama, and appreciation of the arts
- Counting, graphing, grouping, comparing, estimating, problem-solving, and other mathematical activities
- Writing letters, reading recipes, charts, songs, and poems
- Sharing "news," recording experiences, and other literacy related activities

Suggested Materials

- Carpeted space
- Chart stand and paper, flannel board
- Chalkboard
- Magnetic board
- Big book easel
- Teacher chair or stool
- Record player
- Tape recorder
- Rhythm instruments (stored nearby)

Reading Area

The reading area is intended to supplement the library resource center and provide opportunities for children to have daily access to familiar and favorite books, poetry, stories, and information. A special feature of the class collection is the child-authored books.

Concept books, pattern books, big books, and a wide variety of children's literature from the book center are read to children during story time and are available for re-reading. Teachers may choose to tape record their story time readings so individual children can hear the stories again. Children are encouraged and given time to read at their stage of development. In this manner, emergent reading patterns can develop. Older primary children will enjoy independent reading activities at this center.

> *"Students beginning to work in centers need to learn routines, expectations and responsibilities, need to strengthen self direction and independence, and need to develop attitudes towards learning and working at centers."*
>
> *Susan Schwartz and Mindy Pollishuke, Creating the Child Centered Classroom, 1990.*

Suggested Activities for the Reading Area:

- read and reread favorite stories
- share observations and predictions, discuss, and answer questions about books, stories, and other print materials
- re-tell favorite stories
- role play characters of situations from stories

Suggested Materials for the Reading Area:

- big books with accompanying small books and tapes
- selected variety of good children's literature
- class-made and child-authored books
- research and resource books for a variety of topics related to themes, projects, seasons, field trips
- class news board
- reading logs/charts
- poems on charts
- song charts
- language experience charts
- pictures with captions
- calendar, graphs, helper charts
- name tags
- tape player and individual tapes
- film strip/cassette
- props for role playing

Drawing, Writing, and Publishing Area

Drawing provides the child with a way of saying things that cannot easily be said in words. This non-verbal representation of thought is closely linked to oral discussion, which can be extended to the written expression of those thoughts. This center provides a place where children can play with literacy materials and express themselves through print. This is a place where children explore the nature, purpose, and function of written language, each operating at his or her own level. The teacher responds to children's requests for information or help with the conventions of print

Suggested Materials:

- pencils and crayons
- felt markers (broad and fine tip)
- paper of different sizes, shapes, colors, and textures
- envelopes
- staplers and hole-punchers
- home-made books in different shapes and sizes (a few pages with a variety of colored paper covers)
- wallpaper books
- hooks for storing words
- word cards
- pocket chart
- sentence strips
- typewriter
- magnetic letters (upper and lower case) and numerals
- labels from containers
- computers and printer
- small chalkboards
- word lists
- dictionaries and thesaurus
- draft and date stamps

Art Area

Art materials in the classroom may be stored in the art area. Materials and appropriate storage are provided, techniques and processes are explained and demonstrated so children have the opportunity to explore, experiment, and represent their feelings and ideas. Depending on the theme, project, interest, or topic of the moment, the teacher may introduce related materials and techniques.

Suggested Materials:

- crayons
- oil pastels
- chalk
- finger paint
- liquid paint
- cake paint
- screens
- toothbrushes
- cotton balls
- brushes
- straws
- empty deodorant bottles for roll-on painting
- sponges and cotton swabs
- fabric and string
- wood
- "junk" boxes
- tissue and crepe paper
- various objects for printing
- painting brushes (variety of shapes and sizes)
- play dough and clay
- modeling tools (cutters, garlic press, spoons, meat hammer)
- leaves
- wax, tape, glue, paste
- staplers
- felt pens

Painting Area

Paints and paper are materials children need to use freely and creatively. They enjoy painting for its own sake and, although adult interest provides encouragement, painting is essentially a private activity. The opportunity to paint should be available every day for every child. Painting enables the child to experiment with color and technique, to explore the properties of the various media, to evolve and elaborate upon personal symbols, to create and respond to pictures, and to represent what is known from experience. The opportunity to try a variety of papers, paints, colors, and techniques is offered at the painting center.

Suggested Materials for the Painting Area:

- powdered and liquid tempera
- finger paints
- liquid starch (to extend paints, make fingerpaint, use with chalk)
- liquid soap (to fingerpaint with)
- oil pastels
- tempera blocks
- watercolor paints
- marking pens
- fluorescent crayon or paints
- variety of brushes
- large painter's brush
- tongue depressors or chopsticks for mixing paints
- easels or table top space
- drying rack or line
- containers for paint
- cotton swabs
- sponges
- straws
- rollers
- tooth brushes

Sand and Water Areas

Sand and water may be part of the art area, together in one area or as separate areas, depending upon available space. As children explore the properties of sand and water through play, they gain new insights by interacting with each other and with the teacher, who provides suggestions or questions that enhance and extend the experiences. Children extend their scientific and mathematical knowledge as they engage in activities that utilize sand, water, and other materials.

Suggested Materials for Water:

- water and water table
- containers varying according to size, shape, and function
- sponges
- corks
- cups
- water can
- eye dropper
- bowls
- measuring cups
- straws
- siphon
- pouring spouts
- egg beater
- sieves and strainers
- squeeze bottles
- plastic tubing or hose
- objects that sink or float
- water wheel
- water pump

Suggested Materials for Sand:

- dry sand container
- wet sand container
- dust pans
- brooms
- cans
- gelatin molds
- cookie cutters
- funnels
- graduated measuring objects
- watering can
- bucket and shovel
- spoons and scoops
- sieves and strainers
- salt and pepper shakers
- cars and trucks
- animals
- fences
- balance scales
- egg timer
- sand wheel
- props supporting topics of study

Block Area

As children play in the block area, they represent their thinking in three-dimensional form. Intellectual development occurs as children sort, classify, measure, evaluate, and solve problems. Concepts such as size, space and time develop. Children represent what they know from experience by constructing, planning, talking, and engaging in dramatic play. The conversation and cooperation necessary to plan work with others on construction projects and the satisfaction gained promotes social and emotional development. Children are encouraged to draw, paint, map, label, talk, or write about what they are doing as a further extension of their activities.

Suggested Materials for the Block Area:

- block and toy shelves
- wooden blocks
- cardboard blocks and boxes
- table blocks
- hollow blocks
- multilinks
- cuisinaire rods
- geometric shapes
- attribute blocks
- pattern blocks
- vehicles and traffic signs
- wooden people
- animals
- buildings
- hats
- masking tape
- paper
- roads
- plastic cups
- lids
- fabric scraps
- writing tools
- paper cylinders
- blankets or sheets

Dramatic Play Area

The dramatic play area allows children to interact, experience, and recreate real or imaginative situations, places, or roles. As individuals or groups, children can plan, rearrange, and make changes to the center which reproduce real life experiences. Spontaneous dramatic play accompanied by dialogue with the teacher can aid in solving problems and clarifying through language. Participation stimulates development as children become involved in detailed planning, sharing, and cooperating. Reading and writing (writing plans, making signs and labels, etc.) are encouraged whenever appropriate. Encouraging children to bring items from home to facilitate dramatic play promotes involvement.

It may be useful to store some items in separate "prop boxes" or small suitcases. An over-abundance of materials can make clean-up difficult for children. Once you have determined the kinds of prop boxes you wish to have and how you will store and label items, you can begin to sort and add to the collections of materials you already have. Children and parents will contribute items if you provide a stimulating list to get the process started. Other items can be “scrounged” from stores, repair shops, lumber yards, garages, and through newspaper advertisements.

Suggested Materials for the Dramatic Play Area:

- child-size furniture
- kitchen supplies
- dolls and accessories
- dress-up clothes and props (scarves, shoes, hats, ties)
- full-length mirror
- food models
- child-size box
- steering wheel
- keys
- flowers and plants to arrange
- theme props (hospital, space lab, camping, museum, rain forest, community helpers, grocery store, office)
- puppet theatre/store front
- puppets
- commercial puppets
- material for handmade puppets (socks, bags, sticks, paper, yardage, buttons); these might also be stored in the art area

Exploration Area

The exploration area provides the opportunity to explore and experience a variety of materials in a systematic way. Materials which reveal natural phenomena encourage experimentation and inquiry.

While children experiment with using materials and equipment in this area, they are engaged in many processes. They observe, using their senses to perceive similarities, differences, and changes. They classify, organize, and sort. They quantify, comparing by length, area, volume, mass, temperature, force, and time. They communicate their understanding to others through oral language, charts, graphs, and language experience. Finally, they infer (based on past observations) and predict.

"Some centers may be permanent . . . some may be portable, perhaps stored in bins, buckets or on a table and easily moved; and some may be temporary, used for a specific purpose for a short period of time."

Susan Schwartz and Mindy Pollishuke, Creating the Child Centered Classroom, 1990.

Suggested Materials for the Exploration Area:

- water
- magnets
- magnetic board
- magnifying glass
- magnifying stool
- weighing tools
- microscope
- measuring tapes/sticks
- base ten blocks
- tangrams
- plants
- clock
- batteries and bulbs
- thermometers
- prisms
- kaleidoscope
- simple machines and gadgets (telephone, old radio, control boxes, circuit boxes, clocks)
- tools (screwdrivers, pliers)
- touch and feel box
- textured materials
- paper and writing tools for representing observations

The number and duration of centers will vary according to the interests, topics of study, and projects in which children are engaged. The list in this section does not exhaust the possibilities for types of centers or materials. Other centers which might be considered are:

- music area
- cooking area
- listening area
- quiet area

Ways to Facilitate Children's Learning

There are many ways to organize curriculum and classroom activities so that children are engaged in learning. Many teachers use projects and themes as organizational options. Regardless of the ways teachers choose to organize, there are some factors to keep in mind:

- Is this topic, theme, project of interest to the children?
- Is this a worthwhile project?
- Is the scope broad enough to allow for specific personal interests? For example, "Living Things" lets children choose their focus, while "Ants" may be of interest to a limited number of children.
- How much time should I allow for this? Some topics which excite the children need time for research and active involvement while others can be of a shorter duration.
- Are there resources available to support this study?
- Does this strategy facilitate the learning of skills and processes, knowledge, and the development of attitudes?
- Over the course of the year, does the theme, topic, or project provide balance and complement the other endeavors of the class?

Active Learning Strategies

Part of this section is devoted to planning projects and themes, including specific examples. In order to implement projects and themes effectively, teaching and learning strategies must reflect the principles of active learning (see page 3). Some valid strategies include:

- children's news, e.g., a child brings acorns which spark other children's interest in collecting and finding more about . . . .
- teacher's contributions, e.g., the teacher is moving to a new house which precipitates a need to know more about . . . .
- local events, e.g., the town centennial celebration motivates learning about and representing past and present community events.
- world news, e.g., a tornado warning is the starting point for a study of storms and safety procedures.
- teaching strategies such as story telling; e.g., stories in science, humanities, and fine arts.
- broader strategies such as play-debrief-replay and plan-do-review. These are elaborated on the following pages.

Play-Debrief-Replay

The use of play as an instructional approach is happening every day in classrooms everywhere. This model is explained clearly in Selma Waserman's book, *Serious Players in the Primary Classroom: Empowering Children Through their Active Learning Experiences*, NY: Teachers College Press, 1990. Many useful activity examples are cited in this book. The description given below is not comprehensive, but intended to create a desire for more information. The following excerpt describes the criteria for productive play activities that yield significant conceptual growth:

- Investigative play tasks are open-ended. They do not lead students to "the answers."
- Play tasks call for the generation of ideas, rather than the recall of specific pieces of information.
- Play activities challenge students' thinking; indeed, they require thinking. Higher order mental challenges are built into each play task.
- Play activities are "messy." Children are, in fact, playing around.
- Play tasks focus on "big ideas"–the important concepts of the curriculum rather than on trivial details.
- Each play task provides opportunities for children to grow in their conceptual understanding. When children carry out investigative play, they grow in their ability to understand larger concepts.
- Children are the players. They are actively involved in learning. They are talking to each other, sharing ideas, speculating, laughing, and getting excited about what they have found. They are not sitting quietly, passively, listening to the teacher's talking.
- Children are working together in learning groups. Play is enhanced through cooperative investigation. Cooperation rather than competitive individual work is stressed.

The strategy looks like this:

- Children are engaged in an activity which is designed to develop a bigger concept. For example, children may be challenged to observe a variety of seeds and plants. Open-ended questions as such as "What can you find out about seeds?" are posed. The related "big idea" could be "living things grow and change."
- Children are brought together for a debriefing. Questions are directed at articulating the children's observations, ideas, and reasoning. Challenges are posed which go beyond the children's observations, such as "Where do seeds come from?" or "What makes seeds grow?"
- Children return to the materials with new focus questions for their investigation.

The strategy can be repeated as time and interest allow. Materials may be used again for a different set of focus questions. The materials are included in an exploration center for further investigations.

Plan-Do-Review*

This strategy is a sequence which becomes part of the daily routine. As children carry out projects or investigations, they need time to anticipate what they will do, how they will proceed, and what materials they will use. Once the work session is over, they need time to reflect on how they did, what they will do next time, where they will store their project, and what they might want to do differently.

For children to become responsible, independent learners, they must be provided the time and support to plan ahead and follow through. During planning time, children think about what they will do. Children may represent, describe, or otherwise indicate to another child or adult what their plan is. Review incorporates the same strategies, only in reverse, and may involve sharing products with another person.

Specific strategies for planning and reviewing include:

Modeling–As children are working, the teacher describes what they are doing. "I see you have planned to glue scraps of paper to the larger piece of paper. Will you tell us about your work at review time?"

Oral-Adults and children spend a few minutes before the work begins as each explains what they are going to do. By including where the work will be done and which materials will be needed to begin, children are better able to focus and begin independently.

Group-Adults and children plan together using chants, "mystery bags," classroom maps, chalkboard graphs of centers, or other group techniques. Each child has a turn to represent his or her plan within the larger group.

Written–Children represent their plans and reviews on paper. Adults may write dictation, children may draw and/or write, or there may be a planning form the child uses each day. Whatever the medium, a written plan provides a record of the child's work from day to day and is a valuable source of information.

Pantomime-Children act out their plan or review while others participate in pretending as well. Everyone is involved in imagining the action. This often results in motivating children to try some of the imagined work.

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* For more information on this strategy, see *The High Scope K-3 Curriculum.* (1991). Ypsilanti, MI: High Scope Press.

Project Planning

Projects as part of the primary program are highly recommended as a way to make sense of information in children's lives. Projects involve the investigation of a topic, but differ from *traditional* thematic units because they are fully integrated. In project planning, the disciplines are naturally combined; there is no need to provide distinctions or to weigh the number of "activities" in each discipline. The goal is to learn about something, using all the available resources, incorporating the skills, knowledge, and dispositions needed to accomplish that goal.

The project approach is firmly grounded in the principles and ideology of the primary program, and should be part of a balanced curriculum. The skills, knowledge, and attitudes acquired by formal instruction are better learned and remembered when applied in a real context. Using projects with children is an opportunity for application and consolidation of the learning we value (Katz & Chard, 1989).

The types of activities involved in a project reflect the principles of active learning on page 3. Children are decision-makers and planners throughout the process. The teacher leads and structures the project based on the children's ideas and contributions. "The project approach provides a context in which all aspects of children's minds can be engaged, challenged, and enriched." (Katz & Chard, 1989, p. xi)

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A Sample Project

The description that follows was developed and implemented in a kindergarten classroom. *It is intended as a model to be adapted to the individual interests of the children in other classrooms at other levels.* The topic for the project is a decision made by students and teachers together, and is *always* connected to the children, their families, and communities.

A Classroom Grocery Store (narrative in the teacher's voice)

Background

Project planning

The idea for developing a classroom grocery store grew out of our investigation of places in our community. Our small town setting enabled us to take mini-field trips to many of the local stores, observing the interdependent roles of community members and the effects on our lives. We discussed the possibility of converting some of the centers in our classroom into the places we'd learned about. We chose the grocery store as a place to start. At that point, we revisited the town store with a list of specific questions in mind for setting up our model. An example of the time line, sample activities, and assessments follow. **As one assessment, all activities were recorded in a classroom journal at the end of each session.**

Day 1. Mind webbing–"Tell me everything you already know about grocery stores" and "What do we wonder about setting up our own store?" were mapped in a project web and served as our guide for planning and developing. It also served as an ongoing record of our learning. We decided to visit the town grocery store again with our questions in hand.

Day 2. We returned to the town store to observe the things we were wondering about, e.g., How is the food organized? What jobs do people do in the store? What signs or labels might we need to make? What items do we need to collect for our store?

Project in progress

Upon return to our classroom, we brainstormed a list of items we'd like to collect for our classroom store. This became a note to send home requesting help from parents finding some of the things on the list. We designated a collection site which was the dramatic play area. It was agreed that it would be closed until the collection was finished. We decided to put away a number of items in that area so that there would be room for the store.

Days 3-5. Collection days–We revisited the initial brainstorming activity (Day 1) and revised "what we know." (This is an ongoing activity. Revision should occur every 2–3 days). We reviewed items daily that were coming in. We talked about how we might use them and checked them against our wish list.

Day 6. Committee assignments. The question was posed, "What jobs need to be done in order to set up our store?" We decided upon these committees: shelf building, sign making, grocery sorting, grocery stacking, money and coupon sorting, grocery labeling, and furniture moving (this committee drew a floor plan for the store which was approved by the rest of the group). Responsibilities for each committee were outlined. (This later was included in the children's portfolios indicating their role on the committee). We gathered the materials we would need for each committee.

Project Consolidation

Day 7. Committee work began. This was videotaped and reviewed in terms of the designated responsibilities. The grocery sorting group had to decide who would be responsible for each category (decided earlier). When they watched the video they could check to see if they were doing their job. (This assessment related to our overall curricular goal of making a positive contribution to the group). This could have also been used as an assessment in classification, depending on your goal.

Day 8. Finished committee work. Each group reported to the others, showing us their work and providing explanations for why they did something a certain way. For example, the shelf builders had to use metal fasteners instead of staples because of the thickness of the boxes; the sign makers read each sign and told us the purpose of putting the sign in a particular place.

Day 9. Read class journal for developing our grocery store. We set a date for the official opening and made a poster announcing it to the rest of the school. We scheduled times for each child to have a turn in the store. We talked about certain items which would be popular (such as the cash register) and brainstormed ways to share so everyone would get a turn.

Day 10. Grand opening. We watched our video and celebrated with snacks (made in the deli, of course). Individual conferences regarding responsibility and cooperation followed in the next two weeks.

Note: Assessments for this activity focused on goals for responsibility and cooperation. Other focus goals might have been included the areas of problem-solving, communication, ability to plan and complete a task, etc. It is essential that the focus for assessment and the means used to document the behaviors are developed with the activities. See the following page for an example of a documentation form for this project.

For useful activity-based strategies for use in project implementation see:

Wasserman, S. (1990). *Serious Players in the Primary Classroom: Empowering Children Through Active Learning Experiences*. NY: Teachers College Press.

Brewer, J. (1991). *Introduction to Early Childhood Education, Preschool through Primary Grades: Preschool Through Primary Grades.* Needham Heights, MA: Allyn and Bacon.

Workman, S. & Anzanio, M. (January 1993). "Curriculum Webs." *Young Children.*

For a comprehensive description of using projects see:

Katz, L. G. & Chard, S. C. (1989). *Engaging Children's Minds: The Project Approach.* Norwood, NJ: Ablex Publishers.

Child ______________________________ **Teacher** ______________________________

Related Goal: The child will make a positive contribution to the group.

Description of Activity: The teacher and child filled out this form during a conference. The child participated as a committee member for a class project and viewed a video tape of his or her committee at work. The criteria for a responsible committee member were developed by the class prior to the project and are used as a reference for the assessment. The section "I want to work on" is used as a guide for subsequent conferences.

I did these things well:

I would like to work on:

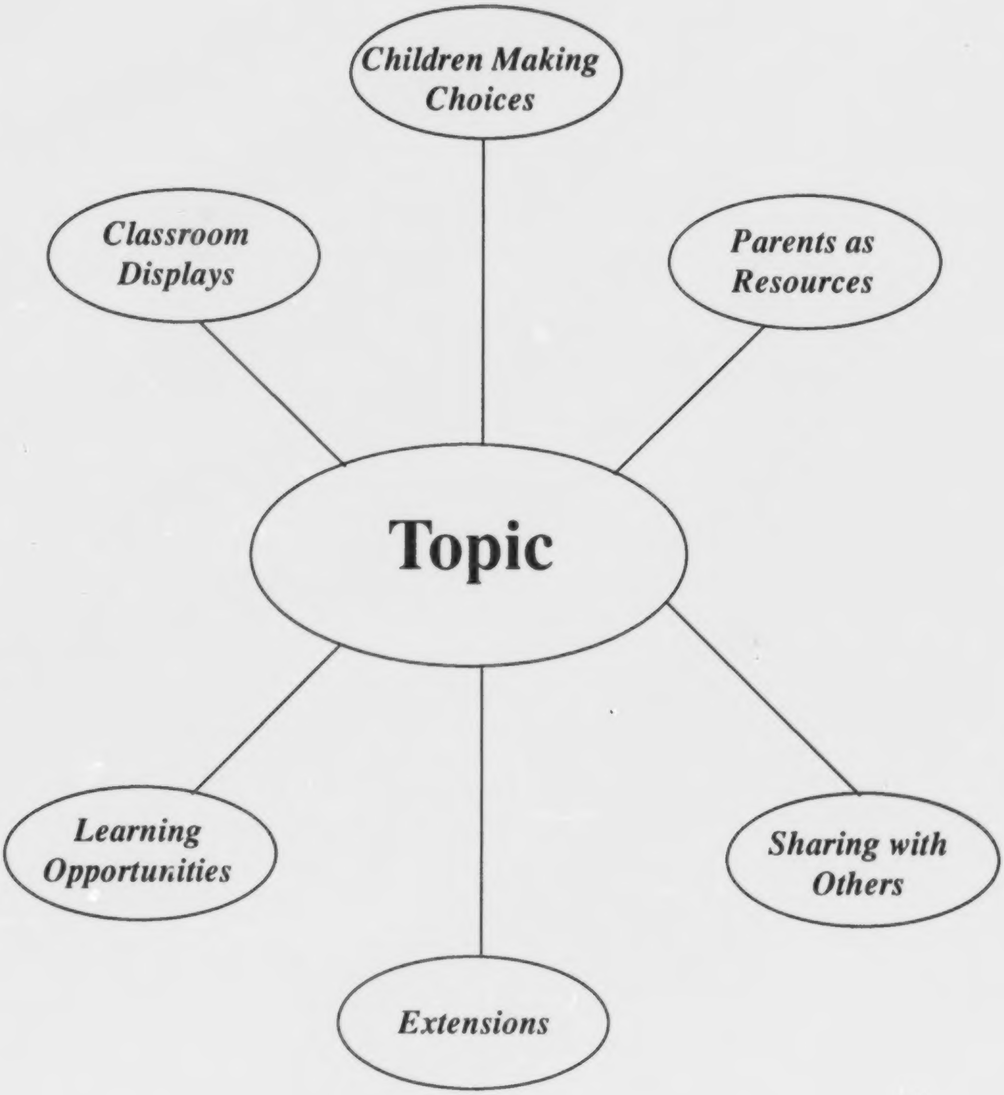
☐ Comments were assisted by teacher

☐ Comments were unassisted

Responsible committee members (children and teacher develop this list together):

- take turns
- have jobs
- use words to tell others what they need
- put things where they belong at clean-up time
- respect others' work
- tell about their ideas
- listen to others tell about their ideas
- help others when asked
- ask for help when needed
- use inside voices
- stay in their own work area

One Example of a Project Design


Children Making Choices
Classroom Displays
Parents as Resources
Topic
Learning Opportunities
Sharing with Others
Extensions

See descriptions on the following page . . .

Examples of Each Feature in the Grocery Store Project

Parents as a Resource

Parents were essential to the collection of materials. They helped their child collect and bring grocery items and other materials on the list generated by the class.

Classroom Displays

- Our mind web was displayed and revised as a record of our learning.
- Our daily journal was available in the reading corner.
- Various representations, drawings, written committee plans, paintings, etc. were displayed in the room.

Children Making Choices

The children made decisions about:

- doing the project,
- what materials we would need,
- what we wanted to find out,
- how to design the store,
- on which committee they would serve and what role they would play, and
- how shelves would be built, groceries labeled and sorted, and the room arrangement, etc.

Learning Opportunities

- The children acquired *knowledge* as they answered their "I wonder questions."
- The children acquired *skills* through their committee work, planning, designing, sorting, cooperating, communicating, and problem-solving.
- The children strengthened the *dispositions* of effort and perseverance as they followed through on the project.

Extensions

- The quality of the model (the grocery store) was dependent upon the amount of investigating.
- The children continued to make changes and improvements as they worked with the model. The connection between the model and the real thing became increasingly significant.

Sharing with Others

- An invitation was extended to others in the school.
- Parents stopped in to visit the store and learn about their child's contributions to the project.
- The conference served as a permanent record to share with the child and parents.

Theme Planning

One approach to providing a child-centered program is through theme studies. When the planning of the themes begins with children and involves them throughout the planning process, rich opportunities for learning are created. Integrated theme studies provide a common focus for the teacher and the children and create a sense of purpose and community within the classroom. Choosing the topics of study based on children's interests provides motivation and enthusiasm for learning.

By capitalizing on their interests, children's attitudes, skills, and knowledge are developed in relevant, meaningful ways. The "need to know" provides reasons for inquiry and communication, e.g., one class became advocates for bicycle safety following a serious accident in their community. This provided reasons for active learning in all curriculum areas.

Learning through an integrated studies approach based on collaboration with children may be new to some children, parents, and teachers.

Children involved in a theme or project need their teacher to help them reflect on their learning and lead them to make further connections between prior and new knowledge. Children's increasing repertoire of skills needs to be acknowledged and the possibilities for application of these skills in other situations needs to be illustrated.

To begin using an integrated approach, a teacher can seek experience working in cooperation with other teachers and with children in active learning situations. By working in a collaborative manner, the teacher gains confidence and flexibility. Through this experience, the teacher realizes that children can take responsibility for their own learning. In turn, children gain the attitudes, skills, and knowledge necessary for lifelong learning.

"A thematic unit is an integrated unit only when the topic or theme is meaningful, relevant to the curriculum and students' lives, consistent with whole language principles, and authentic in the interrelationship of the language processes. When planning thematic units, interdisciplinary connections across the different subject areas are not necessary for integration to be occurring."

Regie Routman, Invitations: Changing as Teachers and Learners K-12, 1991.

It is important to help parents to understand that an integrated approach is beneficial for their children. Hearing about or making a brief observation in a classroom where children are learning in an integrated manner may lead parents to misunderstand what is happening. They may then compare this with their own school experience, questioning how children can learn without the traditional structures.

Teachers need to guide parents toward recognizing that in an integrated classroom there is a structure which combines an understanding of how children learn, familiarity with the goals and curriculum areas of the program, and knowledge of children. This structure provides a powerful base for facilitating learning.

Teachers can demonstrate the value of integration by:

- holding information meetings;
- providing observation guides which focus on specific learnings; and
- helping children to reflect upon and articulate what they have learned.

Teachers who are beginning to organize integrated learning experiences for their children may wish to use themes developed elsewhere. It is important to adapt such themes to meet the needs of each group of children.

There are many possible routes on the journey leading to an integrated approach. There is no one "right way." The comfort level in starting, the length of the journey, and the rate of progress of teachers will vary. However, as the curriculum becomes less fragmented, the teacher sees new possibilities for integrated learning and teaching.

The following discussion of various theme and interest studies may help teachers to understand the advantages and limitations of several methods of integration and the significance of these methods as signposts on the way.

SOMETIMES themes can be created with one group of children in one area and used by another group in another area.

Extreme caution must be taken as themes are not easily transplanted. They require careful, appropriate acclimatization in the new classroom.

Failure to properly transplant can result in the theme's death. Once a theme dies it must be buried immediately as it will begin to rot.

To better ensure success when transplanting, one can take a clipping from a theme and when it roots in your classroom it will be ready to use.

Successful rooting is signalled by emotions being positively engaged, knowledge being constructed and learning being pursued on the part of all.

Once a theme has rooted in your classroom, you and your children can look for additional ideas on how best to care for the theme and its offshoots.

Ann Davies, British Columbia Primary Program Resource Document, 1990.

Class Themes

Teacher Team and Class Initiated, Team Planned and Supported

This type of theme is developed by teachers who seek direction from the children and then collaborate to plan for the children's learning. *Water Study* (see *Sample Themes*) is an example of a framework for this type of study. It describes the work of two teachers who used various strategies and techniques to involve the children in group work and in evaluation procedures as a basis for the development of the theme.

Advantages

- working together, multiple resources, energy, and enthusiasm
- teachers grow professionally in a collaborative approach
- through their interactions with other adults, teachers get to know the children better
- teachers gain skills and receive support which may enable them to take greater risks
- children benefit from the stimulation of working with other teachers
- children benefit from working with other children
- children learn from the collaboration of others

Limitations

- team work may seem to be too time consuming
- asking for children's input requires teachers to relinquish some control

Child Initiated, Child and Teacher Planned and Supported

Topics for integrated class themes may develop from the interests of one or two children. Their enthusiasm may spread to all the children in the class. Based on the response, the teacher(s) plan(s) further. If the theme is broadly developed, there are usually enough choices to sustain the interests of all the children for an extended period. *Trees and Growing Things* illustrates the development of a broad theme.

Advantages

- enthusiasm is high when children and teachers work together
- children learn skills and strategies and gain knowledge through the study of worthwhile topics

Teacher Initiated, Planned, and Supported

The work *Sounds Around Us* is an example of this approach. This type of theme study is usually short in duration and specific in purpose. The theme suggestions may be used to teach other skills and strategies such as brainstorming, clustering, making a list, working cooperatively, recording, and ways of representing ideas which children need in order to embark on independent studies.

Advantages

- the teacher has a vehicle for extending children's capabilities
- children gain confidence in learning new skills
- may give teachers confidence in allowing children more opportunities to make decisions

Limitations

- teacher direction is high
- teacher planned themes used too frequently may discourage children's initiatives
- topics may be too narrow
- children have little choice
- children have fewer opportunities to be self-motivated

School-wide Themes

Teacher Initiated, Planned, and Supported

The theme study *Winter Celebrations* was planned by a group of teachers for the involvement of the whole school. With this type of theme, the structure and the duration will vary according to the resources available. The topic and the activities are set.

Advantages

- teachers work collaboratively
- teachers benefit from the interchange of ideas
- children learn from teachers' collaborative approach
- the work may lead to more permanent ways of working, e.g., team planning, sharing of resources, regrouping of children, more hands-on activity for children

Limitations

- organizationally complex
- short in duration
- planned only occasionally
- little student involvement in planning
- activities may often allow for little creativity

Teacher Initiated, Child and Teacher Planned and Supported

The book *Learning and Loving It, Theme Studies in the Classroom* (1988) describes the work of its authors Gamburg, Kwak, Hutchings, Altheim, and Edwards. Based on their knowledge of their children, their own capabilities and resources, these teachers initiated all-encompassing themes involving children in "real life" learning situations. The chapter, "Theme Study: What It Is and How to Do It," discusses issues in doing theme studies; the concluding section, "Yes, But What About . . . ," addresses frequently asked questions.

Individual and Small Group Studies

Child Initiated, Planned, and Directed/Teacher Supported

This type of study occurs in the classroom where the aim is to help children become independent learners. Topics may be initiated spontaneously by the child or a small number of children. The teacher offers resources and teaches the skills and strategies needed individually or through class studies. The study Spiders is an example of how an individual study may develop.

Advantages

- learning is more natural, not contrived or forced
- the child may be able to follow through independently
- individual needs are more likely to be met
- gives the child real reasons to read, write, and compute
- gives children a sense of control over their own learning
- children inspire other children

Limitations

- some children need considerable time playing, watching, listening, and observing before they participate at this level
- access to the library is essential
- teachers may feel uncomfortable with some of the ambiguity that comes with the facilitative role
- the focus is on the interests of the individual child

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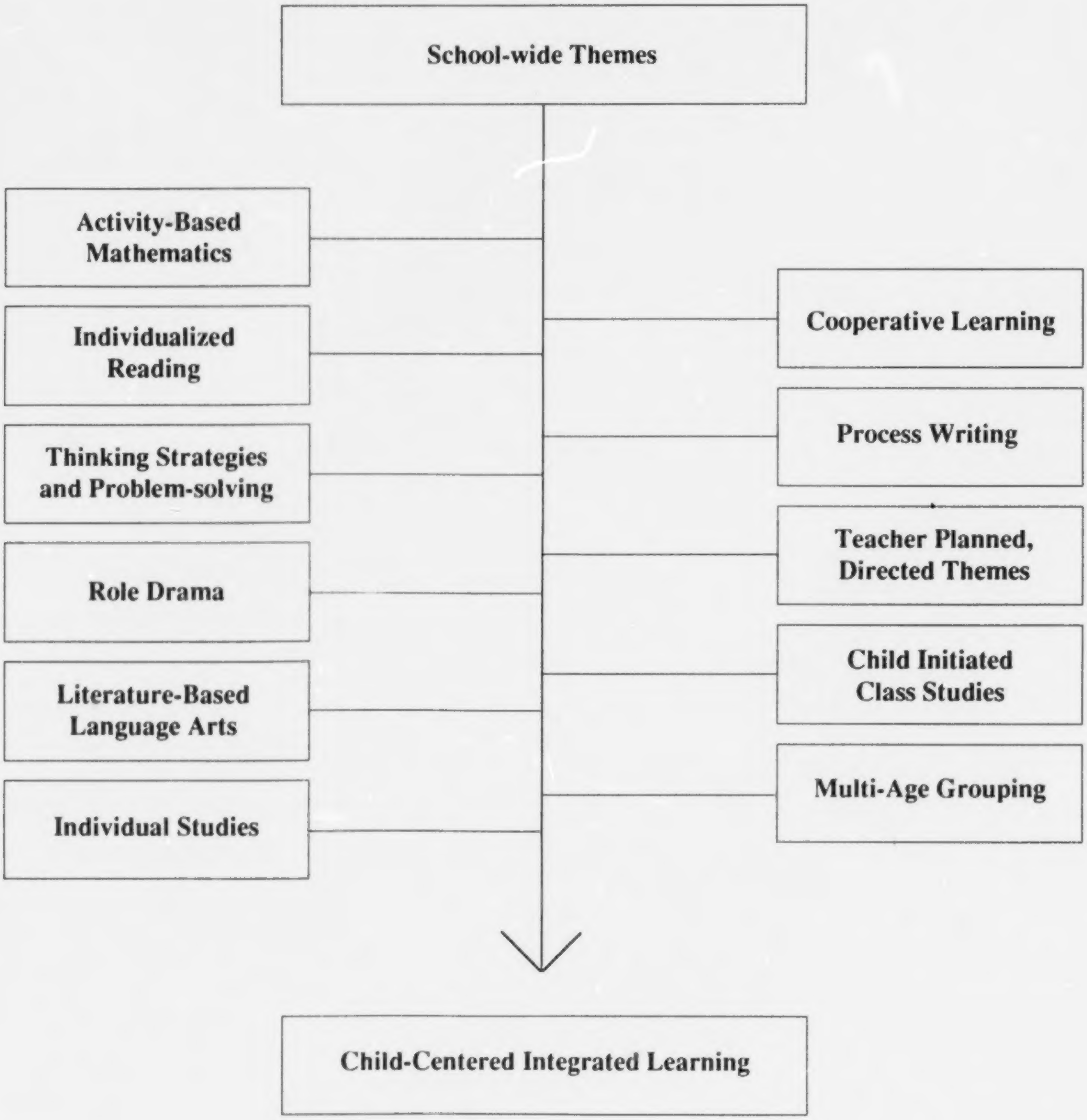
Possible Routes to Child-Centered Integrated Learning

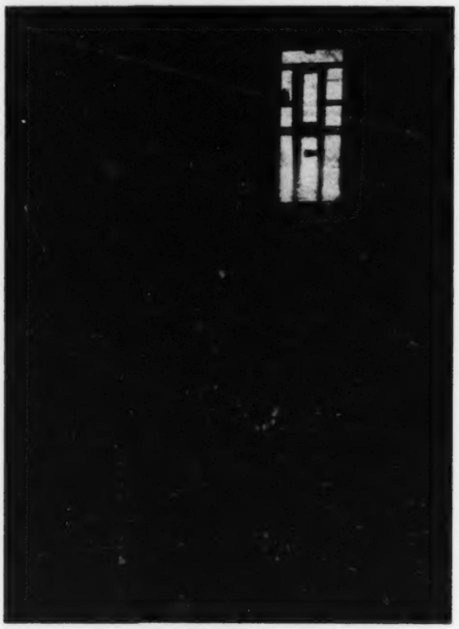
Sign Posts on the Way


School-wide Themes
Activity-Based Mathematics
Cooperative Learning
Individualized Reading
Process Writing
Thinking Strategies and Problem-solving
Teacher Planned, Directed Themes
Role Drama
Child Initiated Class Studies
Literature-Based Language Arts
Multi-Age Grouping
Individual Studies
Child-Centered Integrated Learning

Sample Themes

The next section contains examples of the themes described on the previous pages. They can accommodate individual or small group interests within the class and still provide common interests for large group and whole class work. The topic development is child-centered. That is, the work evolves from the interests of the children. The teacher is a facilitator, supporting learning with a vast store of resources. The teacher suggests open-ended activities, respecting the integrity of the child and the child's role as an independent learner. The teacher also supports the child's work by teaching skills and strategies as they are needed.

In each of these examples, the assessment of students is a continuous process. The teacher's knowledge of how children learn and view their world is central to this process. Children represent their personal thoughts, ideas, and learning preferences in concrete and symbolic ways. With an understanding of child development, the teacher is able to interpret the child's work in the form of authentic assessment and evaluation.



Children involved in a theme or project need their teacher to help them reflect on their learning and lead them to make further connections between prior and new knowledge. Children's increasing repertoire of skills needs to be acknowledged and the possibilities for application of these skills in other situations needs to be illustrated.

It is important to remember that these themes are examples. Transplanting a theme into a particular setting involves the children. When considering themes, ask questions such as:

What will we study?

Brainstorm possible topics with the children the first day of school. Keep a running list for group of individual exploration.

What are the important concepts to be developed?

Create a web on chart paper with other teachers and with the children. Ask:

- What do we think we already know about this topic?
- What do we wonder about when we think about this topic?

Keep revising this list as learning occurs.

What are the resources we can use to answer our questions about this topic?

The children and teacher list (possibly on the topic web) all the available resources which would provide information. The theme study units which follow will give you some ideas for particular topics. Resources include books, art collections, displays of real objects related to the topic, child created displays, experts outside and inside the classroom, and places to visit. The list is limited only by the imagination.

How will we find and use the resources?

With the children, plan activities for locating, collecting, and finding the needed resources. Write letters to outside experts, make phone calls to parents (children can make phone calls, too); go to the library, make the arrangements for excursions, whatever it takes to support learning.

How will we organize what we find out from the available resources?

Develop some strategies to record what you learn. Videotape, individual and class journals and logs, construction, artwork, daily group and individual reading time, written work; classroom activities center around the learning taking place.

How will we show what we know?

This is considered throughout the period of study. What are the learning goals and what will we design, construct, write, draw, or develop to demonstrate our learning to a significant other? (See the *Assessment and Evaluation* section for ways to document learning.)

Use the template below to organize the lists of activities suggested for the theme study units which follow.

What will we study?

What are the important concepts to be developed? (web of subtopics and questions)

What are the resources we can use to answer our questions about this topic?

How will we find the resources?

How will we organize what we find out?

How will we show what we know? (Assessment and Evaluation)

Sample Theme Study

Agriculture

- A class topic
- Child initiated, child and teacher planned and supported

Agriculture

Farms and farm products are an integral part of everyone's lives. From clothing to food to the creation of jobs, farming is truly the backbone of America and the world. An integrated studies unit on farming easily capitalizes on the real world of children, especially those in the Mid-West. It could start by a child bringing in an ear of corn in the fall or planting a seed in the spring. From a child-initiated starting point, the farming topic should develop by building on the current knowledge and experiences of the children. The child and the teacher plan together the specific content areas that will be covered within the area of farming. For example, build a broad theme web by asking the children to brainstorm:

"What do you already know about farms/farming?"
"What do you wonder about farming?"
"What do you want to learn about farming?"

Together organize ideas into common categories. The teacher then provides the resources and facilitates discovery in areas that are of interest, relevance, and significance to the children.

The following is an example of a unit that could develop around the topic of farming. Of course, any unit must be adapted for the authentic learning center in which it occurs. Through continuous assessment and evaluation by the children and teacher, decisions are made about how to move forward in the learning process.

Social and Emotional Development

Read stories set on a farm and invite the children to:

- Discuss how characters in stories solved problems, make story maps.
- Make a "family" tree.
- Discuss characters' emotions and feelings and relate to students; represent ideas.
- "Adopt" a field in the neighborhood and keep a journal.
- Be a "botanist," a "conservationist," in the library, research the job of agriculturalist/farmer.
- Discuss shared responsibilities on a farm and relate to children's lives in and out of school.

The following are examples of activities and experiences which foster and promote the development of attitudes, skills and knowledge in the curriculum areas:

Art

- Create farm scenes using various techniques (finger paint, water color, blow painting, sponge painting, sponge prints, leaf prints, spatter painting, etc.).
- Model with clay or play dough to create farm scenarios.
- Construct with wood to create buildings found on a farm.
- Promote awareness of distinctive seasonal color changes on the farm.
- Make collages (farm products, pictures of machinery, different leaves of plants, etc.).

- Paint with leaves, cobs, cornsilks, shucks, wheat or bean pods, instead of brushes.
- Create a farm scene using various media (different seeds, leaves, grasses, dirt, pods, etc.).
- Do texture rubbings using a variety of farm-originated materials (corn cobs, shucks, silks, pods, wheat).
- Invent and construct a machine that would do a specific job on the farm.
- Make a greenhouse.

Music

- Make musical instruments from natural objects found on a farm and accompany songs or tapes or create group compositions, e.g., crinkle leaves, tape stalks, make soybean shakers.
- Research traditional farm music and instruments and share recordings of music.
- Learn farm related songs such as "Farmer in the Dell" and "Old MacDonald."

Drama

- Dramatize stories heard or written.
- Dramatize songs about the farm.
- Puppetry representations.
- Set up an agriculture lab with props: magnifying glasses, microscope, tweezers, slides, petri dishes, probes, plastic gloves, white lab coats, jars with lids, various seeds, silks, and other farm products.

Language

Listening . . .
- Listen to stories and poems with a farm theme.
- Listen to recordings of farm animals and identify.

Speaking . . .
- Story drama—felt board figures, puppets, and trifold picture stories of familiar stories.
- Dramatic play center—classroom store to sell farm products, farm props, farm clothing, farm related transportation.
- Vocabulary development—words related to farming equipment, machinery, products from and for farms.
- Tell own stories, fact and fiction; record on tape; share in author's circle.
- Recall and describe things found during field trips to the farm.

Writing . . .
- Record findings and observations while on field trips.
- Compose thank you letters to class visitors, volunteers, places visited.
- Keep journals.
- "Publish" information books and stories for class or school library or for "buddies" in another class.
- Write stories, songs and poems set on a farm.
- Compile and publish a personal or class "Guiness Book of Records" about farms (record producing farms, largest farms, states which produce the most corn, etc.).

- Keep a log of stories read and personal responses.
- Keep a learning log of what is being discovered about the farm.

Reading . . .

- Read labels, messages, charts, containing agricultural information.
- Read stories and poems from around the world set on a farm.
- Read instructions on how to do certain activities, i.e., how to plant different seeds.
- Discuss how characters in stories share responsibilities on the farm. How can we share responsibilities?
- Collect labels from packaging of food products and trace each ingredient back to the farm.
- Read informative resources to collect information on different types and aspects of farming.

Social Studies

- Develop geographical and historical perspectives such as how farming has evolved and is different.
- Farming techniques used in different parts of the world, etc.
- Techniques and life-style comparisons:
  - create a display of authentic tools and artifacts.
  - invite a farmer or older person who has worked on a farm to share experiences and help set up a display of artifacts and pictures.
  - farming as a science: invite an agriculturalist to talk about agriculture education and employment.
  - farming as a business: investigate the uses of animal products, plant products, etc. for uses other than food.
  - study and research what life on a farm is like.
- Discuss conservation of oil and our natural environment as related to farming.
- Write letters to the editor about agricultural views and issues.
- Study interconnections of agricultural regions of the world (Third World nations) and their global impact.
- Plant a garden indoors or outdoors and keep a journal.
- Do mapping activities.
- Invite resource people to demonstrate cooking and crafts using farm products.
- Choose a state and research which farm products they raise.
- Make a time line of old to new equipment. Discuss why each piece of equipment was replaced.
- Use a climate map to discuss why certain crops are produced in certain areas.
- Collect and display things made from farm products, other than food.
- Compare likes and differences of various breeds of cattle.
- Collect things made from one farm product (e.g., hogs, corn).

Physical Education

Movement . . .

- Explore the movements of farm animals.
- Dance to music from the *Four Seasons* (Vivaldi).

Nutrition, Health and Safety . . .

- Make a cookbook of favorite recipes using farm products.
- Research nutritional values of common farm products.
- Learn how to observe safety precautions around farm equipment:
  - make posters to inform an audience.
  - dramatize a television advertisement to inform the public.

Science

- Identify and study functions of parts of a farm corp (e.g., corn: roots, stalks, silks).
- Plant a variety of farm related seeds; observe and record changes.
- Explore, observe and record life of the "adopted" farm field and life on and around the field:
  - plants and/or crops.
  - leaves (shape, size, pattern, texture).
  - roots (system, size, depth).
  - evidence of animals.
  - evidence of insects.
  - changes (daily, seasonal).
- Investigate causes and solutions of leaf damage, e.g., be a botanist and problem-solve.
- Investigate how crops and farm animals contribute to the environment.
- Observe moisture collection by putting a plastic bag on the end of corn silks.

Mathematics

- Using farm products, develop mathematical concepts:
  - estimation.
  - pattern, seriation, classification.
  - geometry.
  - graphing.
  - number concepts.
  - time.
  - measurement.
  - data analysis.

Field Trips

- Neighborhood trip to observe types of farms.
- Observe "adopted" field over time.
- Visit a local farm:
  - observe farm environment and equipment.
  - identify specific crops and animals.
  - visit orchard or observe fruit tree in back yard.
- Visit local grocery store, then set up a store in your classroom.
- Visit a meat locker.

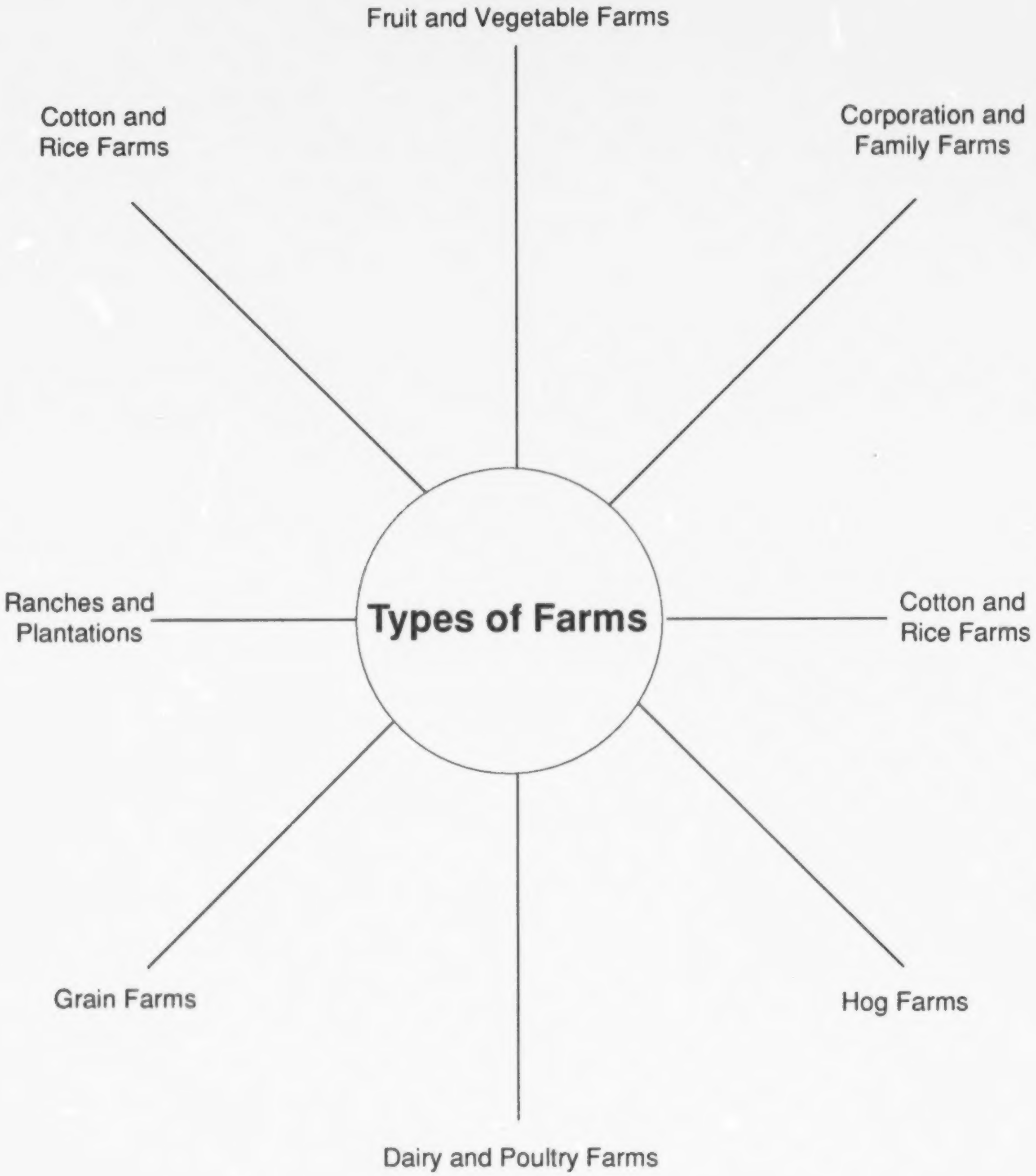
Evaluation and Assessment

Evaluation and assessment are ongoing through observation, collection of authentic data, individual conferences, and small group conferences. Assessment also occurs through revisiting the focus web and recording "what we have learned" as well as "what we still want to know." Opportunities for assessment and evaluation may occur during these events:

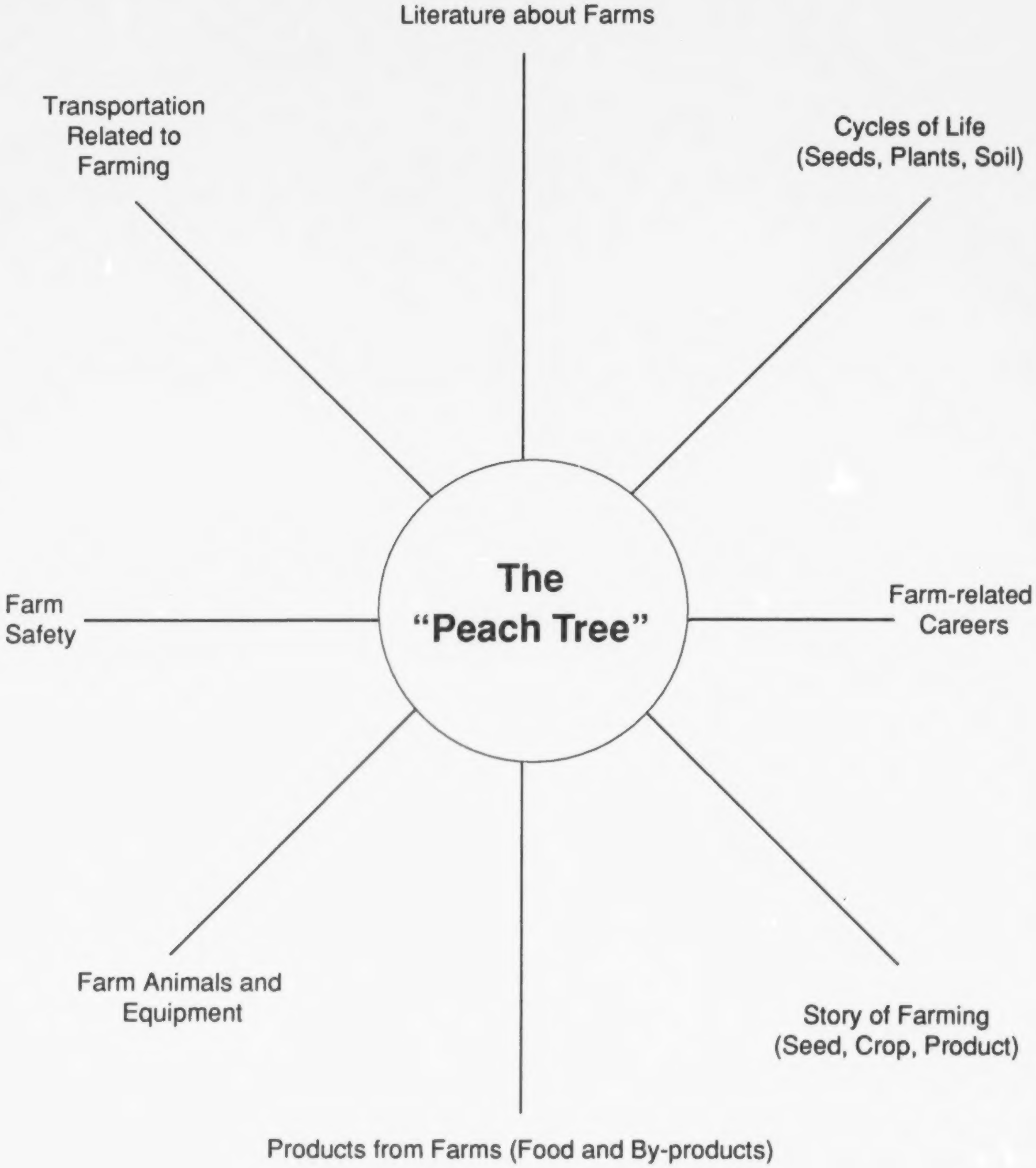
- group evaluation of theme or topic;
- student evaluation of personal progress;
- teacher evaluation of pupil progress;
- teacher evaluation of theme or topic.

The teacher and the children are continually assessing and making decisions as to what the next step in the learning process should be.

Focus Theme Web


Fruit and Vegetable Farms
Cotton and Rice Farms
Corporation and Family Farms
Ranches and Plantations
Types of Farms
Cotton and Rice Farms
Grain Farms
Hog Farms
Dairy and Poultry Farms

Broad Theme Web


Literature about Farms
Transportation Related to Farming
Cycles of Life (Seeds, Plants, Soil)
Farm Safety
The "Peach Tree"
Farm-related Careers
Farm Animals and Equipment
Story of Farming (Seed, Crop, Product)
Products from Farms (Food and By-products)

Sample Theme Study

Trees and Growing Things

- A class topic
- Child initiated, child and teacher planned and supported

Trees and Growing Things

Each year as children excitedly enter the ranks of school, the air is very hot and stagnant within the four walls of a classroom. To find refreshment from the heat, our class often delights in the cool shade of the pin oak trees in front of our school building. Sitting, squatting, lying down, or sprawling under the trees always brings discussion about the wonder of trees:

- What type of tree is this?
- Look at the leaves.
- How big around is the trunk?
- How did the tree get to be so tall?
- What type of animals live in the tree?
- How do trees eat?
- What do we make out of trees?
- What will happen if I dig a hole and put this acorn in the hole?
- Do all trees have the same kind of leaves?
- Could we build a tree house in this tree?

Finding that "teachable moment" has begun. Students teaching students and stimulating learning from their own interests provide the gauge and ground work for the facilitating of an investigation of *Trees and Growing Things* which will evolve and overlap in many content areas. Integrating authentic, hands-on experiences will engage children in real life and life long learning. The teacher's role is to guide, initiate key questions, facilitate, monitor progress, and provide strategies for individual learning systems. Children take the responsibility in gathering resources from the school library, county library, and materials from home. All resources are shared for projects and learning center while cooperative learning grows. These units are a collaboration of ideas from students and the teacher which need to be adapted to the authentic learning setting and developmentally appropriate practices for each individual child within a given classroom. Children are the gauge for developing the learning experiences.

Integrating Content Areas

Science

- Identify the parts and function of trees (e.g., roots, trunks, branches, leaves, fruit, seeds)
- Draw out the life cycle of a tree
- Classify trees by leaves and seeds
- Insects and their effects on trees
- Discuss the environmental importance of trees
- Decomposition of organic matter (e.g., leaves, bark, logs, seeds)
- Experiment with light, soil, and water variables and the effects on plant growth
- Observe and record seed growth of a tree

- Observe and record a "selected tree"
    - Seasonal changes
    - Animal habitat
    - Insect life
    - Leaves (shape, size, pattern, texture, color)
    - Bark (color, texture, thickness)
    - Size, shape, and shadow of tree
    - Root system
    - Needs of the tree
    - Nature study in woodlands near the river
    - Soil erosion
    - Seed travel

- Observe an ecosystem by making a terrarium with tree seedlings.

- Cut top portion of a two liter clear plastic bottle remove bottom colored plastic from the base, 15 seconds in a microwave helps soften the glue. Put a layer of rocks, broken pottery pieces, or charcoal pieces in the base. Fill the base with potting soil. Plant seedlings and water. Place clear plastic over seedlings and fit into the base.

- Take a tree walk and find trees with leaf damage, moss, seedlings growing around the base, trunk damage, etc., and problem-solve the "whys."

- Research soil and water conservation in the area.

Math

- Count growth rings of different trees to compare ages of the tree.
- Estimate the circumference of the trunk, leaves on a branch, seeds in a guessing jar, then compare the actual.
- Mark the shadows of the tree to mark time for each hour. Do this during each season of the year and compare the markings.
- Measure weight of different seeds.
- Compare the sizes of trees, leaves, seeds, trunk.
- Graph the variety of trees found on a tree walk in the park.
- Graph color of leaves.
- Graph types of seeds.
- Find the bigger tree in your yard, measure trunk circumference, height, or spread, and bring data to record on the class record sheet. Compare sizes.
- Count the trees at the local park, compare numbers of different varieties.
- Observe the geometric shapes of trees and leaves.
- Calendar time–each day a student shares information about trees and how they relate to our environment.

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Social Studies

- Discuss how trees are like a friend after reading and listening to *Some of My Best Friends are Trees* by Joanne and Benjamin Marxhausen.
- Make a map of the school yard, student's yard, or local park and draw the locations of the trees.
- Locate on a map geographical regions where tree varieties grow.
- Research the history of trees planted in rows called *wind belts of the prairie*.
- Related career visits: community helpers
  - Horticulturist
  - Nursery business
  - County extension agent
  - Lumber yard
  - Cabinet and furniture crafts person
  - Construction contractor
  - Trucking firm which hauls lumber
  - Natural resource personnel
  - State arboretum foundation
  - Technology used in careers
- Read aloud the story of *J. Sterling Morton, Arbor Day Boy*, by Clyde B. Moore. Make a time line of events and pioneer settlements in America.
- Celebrate Arbor Day by planting a tree in your community (Each state has a set date depending on the planting season).
- Place a paper recycling box in the room to collect paper for the local recycling center.
- Tell about how you and your family take care of the trees and plants where you live.

Music

- Sing songs about trees, plants, or growing things: Disney Productions, Volume 1, Disney Children's Favorites, *The Green Grass Grew All Around.*
- Raffi, *Evergreen, Everblue, Troubadour Records, Ltd., Universal City, CA, 1990.*
  - *Where I Live*
  - *What's the Matter With Us?*
  - *Just Like the Sun*
  - *Clean Rain*
  - Raffi, *Everything Grows and Grows, In My Garden, Mr. Sun*
- Make instruments out of parts of trees:
  - Hollow log drum
  - Bowed stick violin
  - Seed maracas (use "Leggs eggs")
  - Rhythm sticks
  - Leaf shakers
  - Slit leaf kazoo
- Compose a song about trees or write words to put with a familiar tune.

Drama/Puppetry

- Write a play about how we can take care of trees.
- Make puppets for a song about trees.
- Act out the story of *The Peach Tree*.
- Prepare a poetry recital with poems about trees and growing things.
- *Author's Chair*–read original stories or selected readings about trees.
- Share a program of music, drama, puppets, and readings with residents of the local nursing home.

Dance

- Dance to music from Raffi's music, *Evergreen, Everblue*.
- Pretend to be a tree and move with a breeze, wind storm, rain, blizzard, sunny day, etc.

Art

- Make a collage of leaves from a variety of trees, pictures of trees and plants from magazines and labels of fruit products, products made from wood (e.g., furniture, cabinets, playground equipment, houses).
- Gather bark, branches, twigs, seeds, and leaves to create a picture or sculpture.
- Wax paper, crayon, leaf press.
- Leaf prints with crayon rubbings on paper.
- Leaf prints on T-shirts. Materials needed: acrylic paint, brushes, leaves, T-shirt, six-inch square pieces of newspaper. Paint the back side of the leaf; position leaf on shirt; take a clean newspaper piece for each print and press to ensure an even print; let print dry two minutes then continue with next print; after all prints are on the shirt and dried, place a cloth between the iron and print, then iron prints to set paint.
- Draw yourself and your tree. Show what you could do around, in, under, beside, for, or with your tree.
- Lie down under a tree, look up and draw what you see.
- Make a seed mosaic out of different seeds collected from home, local park, school grounds, etc.
- Use a variety of mediums to represent your "selected tree" such as: tempera paint, sponge prints, finger paints, sand and glue, cut paper, crayon, magic marker, tissue paper.
- Illustrate pictures for a class "big book" about trees.
- Paper-making (pulp, water, blender, screen strainers, molds or forms, air dry). Ellis, Rosemary & Symons, Isabelle; *Paper Making*, The Bodley Head, 1976.
- Fruit prints–cut a fruit in half to make prints, put tempera paints in pie pan, dip, and print.

Physical Education

- Play the game *Squirrels in a Tree*.
- Movement exploration: Make your body into a tiny seed, the baby roots and leaves begin to grow, the sun shines, the rain falls, the stem grows tall and wider and wider, the trunk is big and upright, branches extend outward, roots dig deep into the ground, leaves fall, wind blows, seeds drop to the ground, the winter soil is cold and hard, but, the warm spring sun warms the seed, the rains water the seed, the baby roots and leaves begin to grow inside the swelling seed.
- *Aphis and Ladybug Tag* adapted from the book, *A Peach Tree*.
- Take a walk in the park on the footpath.

Health and Safety

- Identify foods produced by trees.
- Discuss the food pyramid and its components.
- Draw out the food chains for different animals.
- Research effects of chemicals on trees/plants.
- Discuss need to use fruits and vegetables properly.
- Discuss safety when hiking in wooded areas.
- Discuss tree house, playing with sticks, and tree climbing safety.

Cooking

- Make a peach cobbler or peach pie.

Language

Listening . . .

- Listen to *A Tree is Nice* by Janice May Udry, *A Peach Tree* by Normal Pike, *Some of My Best Friends are Trees* by Joanne Marxhausen, *The Giving Tree* by Shel Silverstein, *Just A Dream* by Chris Van Allsburg, and *On the Day You Were Born* by Debra Frasier.
- Read books and record for others to listen.
- Tape sounds of: wind rushing through boughs of trees, cracking twigs as someone walks in a wooded area, birds singing in trees, seeds shaken in a jar.

Speaking . . .

- Tell about drawings of trees, parts of trees, life cycle of a tree, walks in a park, careers related to trees.
- Report factual information about trees and environmental concerns.
- Dramatic acting out of stories.
- Retell stories to class or small groups.
- Interact in cooperative groups when problem-solving, brainstorming, experimenting, writing stories, or researching topics related to trees.
- Vocabulary development–words related to stages of tree growth, names of trees, products from wood.

Writing . . .

- Record and write about findings and observations while on field trips.
- Write letters of inquiry for career visits, then write thank you letters to individuals sharing their careers.
- Write letters to politicians in regard to environmental concerns.
- Write articles for local newspaper sharing learning experiences about trees.
- Write a story about your picture of you and your "selected tree."
- Label and identify in writing parts and functions of a tree.
- Publish information books about trees.
- Keep a "tree journal" about your "selected tree" for the school year.
- Take a photograph of your "selected tree" and write about what your tree might say if it could talk.
- Write stories, songs, and poems about trees.

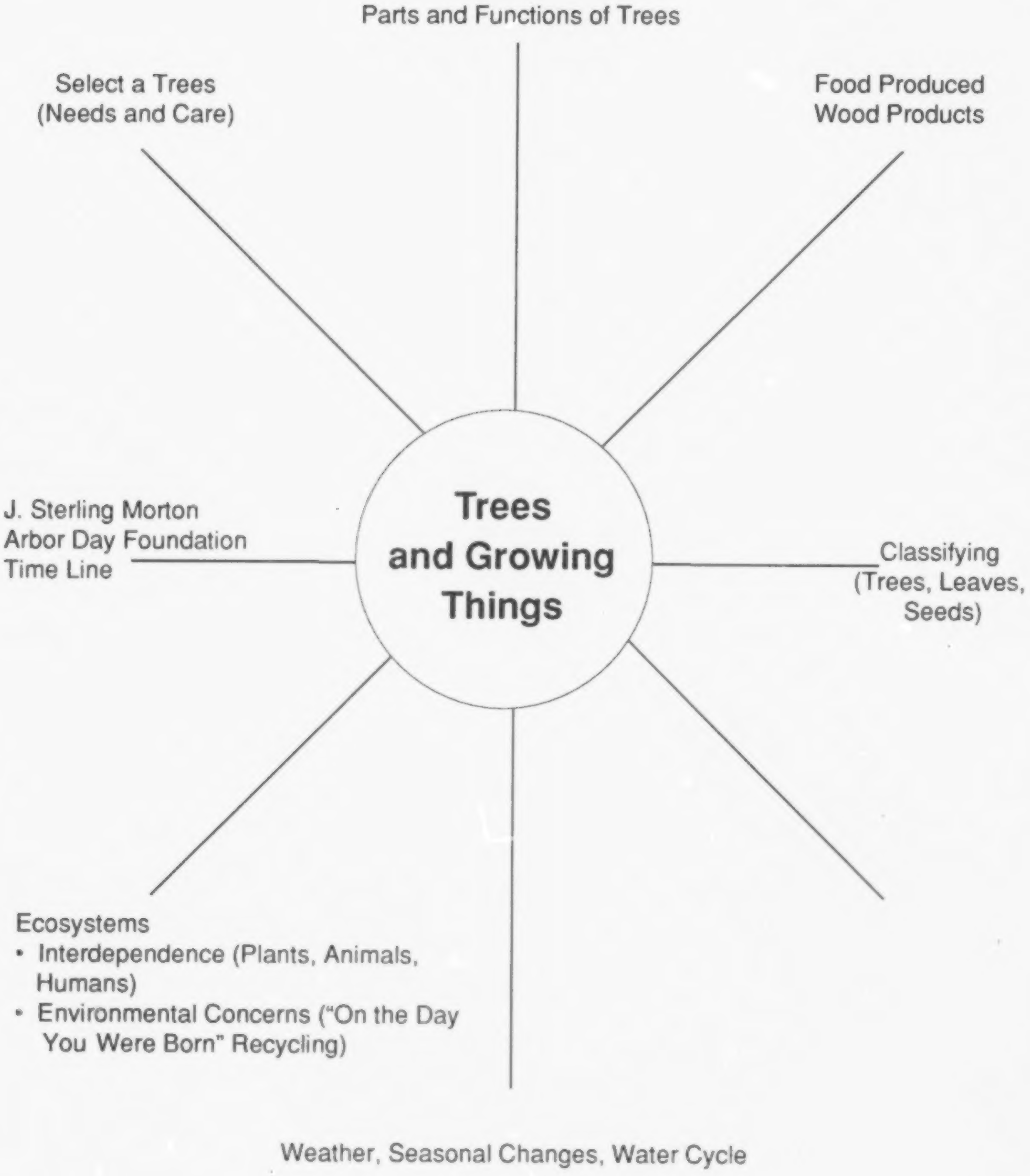
Reading . . .

- Read literature and informational stories about trees, plants, and seeds.
- Read and share individual stories, tree journal, favorite stories to a friend, parent, or grandparent.
- Read stories each morning, i.e., *Author's Chair*.
- Read directions, instructions, recipes, letters, charts, and factual information about trees.
- Read labels and tag words on pictures, flow charts, and story maps.
- Read and discuss how people take care of trees around the world to make our world a better place for everyone.
- Read poems, plays, and songs.

Assessment, Evaluation, and Portfolios

- Group evaluation of theme or topic.
- Student's evaluation of personal progress.
- Teacher evaluation of pupil progress taken from student's representations of:
  - Parts and functions of the tree
  - Tree/plant life cycle
  - Drawing of a flow chart of how trees return oxygen to humans by photosynthesis
  - Writings in journals
  - Written stories
- The teacher and the children are continually assessing and making decisions as to what the next step in the learning process should be.

Broad Topic Web



Trees and Growing Things

Parts and Functions of Trees

Food Produced
Wood Products

Classifying
(Trees, Leaves,
Seeds)

Weather, Seasonal Changes, Water Cycle

Ecosystems
- Interdependence (Plants, Animals, Humans)
- Environmental Concerns ("On the Day You Were Born" Recycling)

J. Sterling Morton
Arbor Day Foundation
Time Line

Select a Trees
(Needs and Care)

Focus Topics

Read and Share *The Peach Tree* by Norman Pike

The "Peach Tree"

Music
- Songs about Plants
- Instruments
- Dances

Classifying
- Numeration
- Graphing
- Estimating

Art
- Multi-media
- Leaf prints

Interdependence
- Tree, insects, humans
- Photosynthesis

Drama
- Acting out the story *The Peach Tree*
- Making puppets for songs and poems

Environmental
- Care of trees
- "Some of My Best Friends are Trees"
- "Just a Dream"

Health/Safety
- Ladybug insect control

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Programs

National Arbor Day Foundation, *Celebrate Arbor Day*, National Arbor Day Foundation, Nebraska City, NE, 1988.

National Arbor Day Foundation, *Grow Your Own Tree, Lower Elementary Grades*, National Arbor Day Foundation, Nebraska City, NE, $7.50.

National Arbor Day Foundation, *Trees Are Terrific!*, Curriculum Kit, National Arbor Day Foundation, Nebraska City, NE, $17.55.

Project WILD, Outdoor Education Division Nebraska Game and Parks Commission, Box 30370, Lincoln, NE 68503-0370, 402-471-0641.

Stop, Look, and Learn About Our Natural World, Nebraska Natural Resources, Elementary Education Guide K-2, P.O. Box 94876, Lincoln, NE 68509, 402-471-2081.

Films

Grow Your Own Tree, The National Arbor Day Foundation, Nebraska City, NE.

Tree Magic, The National Arbor Day Foundation, Nebraska City, NE.

Materials

Nebraska Aquatic Education Program (K–12), Nebraska Game & Parks Commission, Ak-Sar-Ben Aquarium, 21502 West Highway 31, Gretna, NE 68028, 402-332-3901.

Project WILD and *Aquatic Project WILD*, Outdoor Education Division, Nebraska Game & Parks Commission, Box 30370, Lincoln, NE 68503-0370, 402-471-0641.

Water Riches, 4-H, Youth Department, University of Nebraska Extension, 114 Agricultural Hall, Lincoln, NE 68583-0700, 402-472-2805.

Sample Theme Study

Winter Celebrations

- A school-wide theme
- Teacher initiated, teacher planned and supported

Winter Celebrations Theme

A group of teachers planned this theme for the involvement of the whole school. The topics and the activities are planned in advance.

Theme Planning Process

Initial Meeting

- Brainstorm ideas
- Generate as many ideas for activities as possible
- Create a list that can be used by teachers to select the station they wish to be responsible for. The number of students in each activity station depends upon the number of activity stations. Ideally, no more than 20 students should be at any one station. It may be necessary to recruit volunteers to create enough stations to keep the numbers low.
- Consider goals
- Set dates
- Select coordinator

Confirm Activities

- Teachers select their stations
- Solicit name and description of activity. Teacher is to identify activity with a brief description and list of materials needed (page 14).
- List and adjust for possible similarities
- Consider extra activities for early finishers

Inform Community

- Send home newsletter introducing event and soliciting volunteers (page 15)

Confirm Activity Station

- Identify activity and station leaders
- Identify time frame
  - Determine length of activity and number of days required.
  - Confirm appropriate time for each activity (suggested activities included are planned for 40 minutes)
  - Allow for clean-up at each station, movement of children, and student evaluation on the final day
- Identify physical location of stations
  - Use map of school to indicate station layout
  - Decide on signal for all to move to next station and who will give the signal
  - Determine rotation plan, considering logical movement patterns
- Identify and finalize materials required

Divide Children into Family Groups

- Teacher divides class
- Construct master list, trying to keep numbers uniform

Confirm Volunteers

- Send letter to each volunteer to confirm participation (page 16)

The Day Before

- Rehearse grouping and station rotation; each group has a starting station
- Have children make name tags for themselves, staff, and volunteers
- Set up activity stations
- Distribute and set up materials
- Post signs to identify stations

Theme Activity Days

- Confirm that each station is operational
- Issue name tags
- Signal for all to move stations as decided upon earlier in planning
- Provide time for students after they have returned to their base room (page 17)

Follow Up

- Distribute station leader evaluation sheet (page 18)
- Send thank you notes made by students to volunteers
- Include a thank you letter in the parent bulletin

Winter Celebrations Theme Activities

Computer Collectibles

Activity

- Using computers and *Print Shop* software to create and print a holiday card with a personal message and design

Goals

- To develop thinking processes/skills; promote aesthetic/artistic and emotional/social development

Materials

- Computers
- Printers
- *Print Shop* disk
- Computer paper
- Coloring materials
- Volunteer assistants (trained on *Print Shop* ahead of time)

Method

- Load disk
- Follow program instructions for greeting card and print
- Color designs and/or add detail

Alternate Activities

- Using *Print Shop*, create a winter banner or poster
- Color and/or add detail

Popcorn-Cranberry Wreath

Activity

- To create an early pioneer holiday craft: a popcorn-cranberry wreath

Goals

- To help children develop an empathy for the pioneers' way of life and understand how winter celebrations have changed
- To promote physical, social, and artistic development

Materials

- Fresh cranberries, 1 large bag for 20 wreaths
- Floral wire–medium gauge, 30 cm., 1 per child (available at craft shops)
- Colored yarn
- Large bag of popped popcorn (made by children earlier)
- Colored ribbon

Method

- Discuss Christmas celebrations of earlier times and the resources available then for decorations
- String cranberries and popcorn on wire leaving a space at each end
- Twist wire ends to close
- Attach yarn for a hanger
- Decorate with ribbon

Alternate Activities

- In keeping with the pioneer theme, activities such as the following could be substituted: making sachets, candles, embroidery, corn husk dolls, and balsa wood carved toys.

Winter Olympics

Activity
- To participate in a variety of outdoor winter sports or indoor simulated winter sports in a non-competitive manner

Goals
- The development of body awareness, physical fitness, and safety procedures for winter sports

Materials
- Indoor
  - Cardboard snowshoes (approximately 10 pairs) — Snowshoeing
  - Hockey sticks, net, pucks — Hockey Shoot
  - Scooters — Bobsledding
  - Hoops (10) — Slalom (hopping)
  - Cones, ropes — Body Sledding
  - Children — Seal Racing

- Outdoor
  - Down hill sledding
  - Inner tubes
  - Cross country skiing
  - Ice skating

Method
Indoor Winter Games
- Decide on the number of stations; rotate the children through each station in the 40-minute schedule

Sample Station Set Up
- Hockey Shoot:
  - Attach hoop to net
  - Player gets three chances to shoot through the hoop

- Seal Racing:
  - Set up cones in a course
  - Lie on stomach and pull yourself through the course using arms only

- Snowshoe Race:
  - Children put on snowshoes, and walk (race) around a course
  - This can be a relay (Snowshoes can be made of cardboard)

- Body Sledding:
  - Set up a course using cones
  - Children lie on stomach and maneuver around cones

- Slalom:
  - Set up course using 10 hoops in a staggered position
  - Children jump with two feet together from hoop to hoop, older children may jump back also

Outdoor Winter Games

In the event of snow, similar activities can be used with actual sports equipment. Set up as for indoor non-competitive winter games.

- Suggestions
  - Down hill sledding
  - Inner tube racing
  - Hockey shoot (if ice available)
  - Snowball distance throw
  - Snowball target throw
  - Tin can curling (ice required)
  - Snow sculptures
  - Snowman contest
  - Tug of war

Winter Weather

Activity

- To build a simple thermometer that uses air and water and to do a simple experiment. Resource: *Winter* by Robert and Marlene McCracken.

Goals

- To help children understand how the thermometer works and how to use it as a measurement tool

Materials

- One baby food jar per two children (hole needs to be punched into lid for a straw to fit through)
- Straws
- Plasticine
- Water
- Food coloring

Method

- Partners fill jar 3/4 full of colored water
- Replace lid, inserting straw through hole, into the water but not touching the bottom
- Seal the hole around the jar with plasticine
- Warm the jar by holding it in both hands; result: warm air expands, pushing the water up the straw
- Children illustrate their experiment and write about it

Alternate Activities

- Where there is snow, take a thermometer outdoors and record the temperature, three feet above the snow and on the snow (try this in both sun and shade). Then put the thermometer into the snow, three inches down and record the temperature. Repeat. Have children speculate on differences in temperature.
- Have a table set up with indoor thermometers, a jar of hot water, and a jar of cold water. Have children explore, observe, and record different temperatures.

Popsicle Poetry

Activity

- To cluster ideas around the phrase "I wonder about winter" (page 19)
- To organize the ideas and produce a finished product that represents the ideas

Goals

- To develop and extend children's natural curiosity about winter
- To help children learn to record, organize, and represent ideas, fostering intellectual, and aesthetic and artistic development

Materials

- White cartridge paper for clustering and drawing
- Draft paper
- Overhead projector or large chart paper
- Paper for finished written product
- Writing and coloring materials

Method

- Choose a winter poem and share it with the children
- Through oral discussion have children explore their ideas and feelings about winter
- Record children's ideas on overhead or chart paper, modeling the cluster approach. Model some in picture form for younger students.
- Have children work in groups to develop their own clusters, either in written or pictorial form
- Use these ideas to create a poem, story, or picture

Alternate Activities

- Choose an appropriate winter story (e.g., *Fifty Below Zero* or *A Promise is a Promise* by Robert Munsch) to read to the children and have them respond in written or picture form. Use such strategies as "Reading Like a Writer," "Bubble Thinking" or "That's a Good Idea" to develop thinking skills.

The Ultimate

Activity
- To create and design the ultimate vehicle for snow travel

Goals
- To develop creative and critical thinking processes and skills

Materials
- Overhead or chart paper
- Large cartridge paper
- Drawing materials

Method
- As a whole group, begin a "That's a Good Idea" thinking strategy (*A Handbook of Strategies for the Early Years* by Robin Fogarty) to develop a vehicle suitable for snow travel.
- Have students continue in small groups to create their own ultimate snow travel machine.
- Have children talk or write about where they would go and what they may encounter on their journey.

Alternate Activities
- Create and design:
  - A winterized house
  - Protective clothing for winter survival

For the Birds

Activity
- To assemble a bird feeder using pine cones (collected from a park), wild bird seed, and peanut butter

Goals
- To develop an environmental awareness regarding animal survival in winter
- To promote the development of responsibility

Materials
- One pine cone per child
- Peanut butter, 1/2 cup per child (natural, unsalted)
- Wild bird seed
- One pipe cleaner each
- One popsicle stick each
- Ribbon
- One bag to transport feeder home
- Two volunteer assistants advisable

Method

- Wrap pipe cleaner around top of pine cone, twist securely
- Use popsicle stick to poke peanut butter inside pine cone openings (peanut butter may be thinned with cooking oil)
- Roll pine cone in bird seed, packing firmly, using palm of hands
- Tie a ribbon to the pipe cleaner
- Carry home in bag provided (make sure name is on the bag)
- Wire feeder to a safe, visible branch

Just Imagine

Activity

- To represent visual images after listening to a story and participating in a guided imagery activity

Goals

- To explore, express, visualize, interpret, and create ideas

Materials

- Story book such as *Polar Express* by Chris Van Allsburg or another story that creates strong visual images
- Audio tape to create a mood
- A room with a comfortable setting, possibly decorated for the holidays
- Pastels
- Manilla drawing paper

Method

- Children enter a dimmed room to the sound of tape playing and choose a comfortable place to sit with a buddy
- Teacher reads the story aloud to children
- Teacher reads guided imagery selection while students visualize
- Children represent their creative visualization on their drawing paper

Alternate Activities

- Create different moods by choosing alternate background materials

Musical Melodies

Activity
- To sing a new winter song using instruments as accompaniment

Goals
- Aesthetic and artistic development through the enjoyment and creating of music

Materials
- Instruments appropriate for choice of song
- Charts with words of songs printed
- Piano, auto harp, guitar, or other accompaniment

Method
- Choose an appropriate song
- Teach words and melody by rote
- Students keep beat on barred instruments set up in a pentatonic scale
- Younger children may use triangles, bells, etc.
- Older children learn harmony
- Children play their instrument on specific words
- Allow time for singing of favorite winter season songs

Creative Crafts

Activity
- To construct a variety of seasonal crafts using a variety of materials

Goals
- To foster creative effort and aesthetic appreciation

Materials
- Glue gun (adult operated)
- White glue
- Snow spray (pump not pressure)
- Containers
- Fir, cedar, holly branches
- Glitter
- Old holiday decorations
- Egg cartons (not styrofoam)
- Paper plates, cups
- Dried pasta
- Scrap paper
- Paper for name tags
- Pine cones
- Tinsel
- Ribbon
- Garland
- Candles
- Seeds
- Any craft material
- Two or three volunteers

Method

- Brainstorm ideas for winter season crafts
- Demonstrate methods of attaching materials together safely and effectively
- Allow children to work in groups or individually to create their product
- Allow time for clean up, replacing materials and name tags

Assessment and Evaluation: Children

Aesthetic and Artistic Development

- Representation through a variety of forms
- Appreciating the interrelationship between the arts, society, and the environment

Emotional and Social Development

- Collaboration among children
- Cooperative learning and working
- Positive social interaction
- Development of a positive self-image
- Sharing of experiences and ideas
- Enjoyment of the experience
- Learning from others

Intellectual Development

- Application of thinking strategies
- Development of effective communication skills

Physical Development

- Appreciation of physical activity
- Development of fine and gross motor skills

Development of Responsibility

- Respect and concern for our environment
- Showing responsibility for cleaning up work space
- Appreciation of cultural heritage
- Experiencing activities that allow for both creative and critical thinking
- Presentation of curriculum in a meaningful and integrated format

Methods

- Observe the children as they:
  - Manipulate materials
  - Write and draw
  - Interact with others
  - Express their thoughts and ideas
  - Participate in activities
  - Demonstrate attitudes towards activities

- Photograph or videotape activities for future reference
- Assess the children's representations (products)
- Conference with students as they participate in the activity. Types of questions to ask:
  - What do you know about this?
  - What do you want to know?
  - How can you find out?
  - Can you tell me what you are doing?
  - How are you feeling about the activity?
  - What else could you do?
  - How could you extend this?
  - What do you wonder about this?
  - What are you thinking about here?
  - Have you ever seen (done) anything like this before?

Assessment and Evaluation: Program

Methods

- Student evaluation (page 17)
- Station leader evaluation (page 18)

Winter Celebrations

Station Leader:

Activity:

Volunteers required:

Materials required:

Other suggestions:

Name: ______________________________

Sample Letter to Parents

Address

Telephone Number

Dear Parents:

We are beginning to plan for our *Winter Activity Days* on Tuesday, December 19 and Wednesday, December 20. We would like to start recruiting parent volunteers and classroom helpers.

We are asking for volunteers from 9 a.m. to 2:20 p.m. on Tuesday and from 10:45 a.m. to 3 p.m. on Wednesday. Activity centers include:

- *Numerous holiday crafts*
- *Computer holiday cards*
- *Music*
- *Cooking*
- *P.E. fun*

Please fill in the bottom portion of this sheet and return it to school. Your assistance will help to ensure we have a successful day.

Yours with thanks,

Ron Pauls, Principal

....

I will be able to help with *Winter Activity Days* as follows:

_____ Tues., Dec. 19, 9 a.m.–2:20 p.m.

_____ Wed., Dec. 20, 10:45 a.m.–3 p.m.

Name: ______________________ Telephone ________________

Follow-Up Letter to Volunteers

Dear Volunteer:

Thank you for volunteering to help with our *Winter Celebrations* theme days. We look forward to seeing you on ______________________________ at ________ a.m. in Room ________ . Your station is ____ . The activity will be ____ . Thank you for your help and cooperation.

Sincerely,

Kathleen Koch, Volunteer Coordinator

Student Evaluation of Winter Celebrations

Wow! **Fine** **O.K.** **Partly Enjoyable** **Not Enjoyable**

Computer Collectable ____________________

Cranberry Popcorn Wreath ____________________

Winter Olympics ____________________

Winter Weather ____________________

Popsicle Poetry ____________________

The Ultimate ____________________

For the Birds ____________________

Just Imagine ____________________

Musical Melodies ____________________

Creative Crafts ____________________

Cooking Caper ____________________

Other comments ____________________

Station Leader Evaluation

Leader:

Station:

Evaluation:

Highlights:

- What did you like best?
- What did you like least?

Changes for next time:

Goals achieved:

How do you know?

Did you enjoy the activity?

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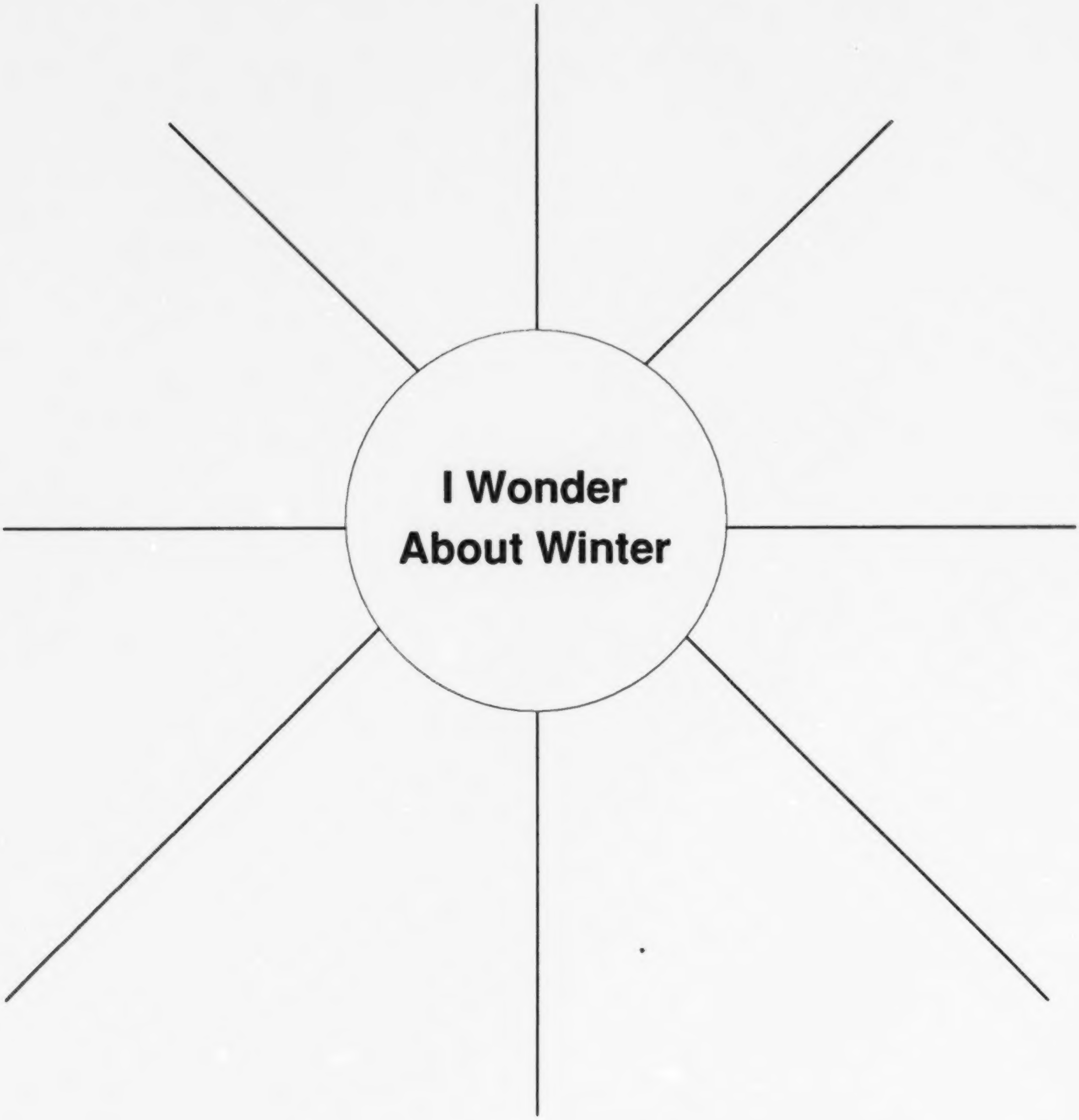
I Wonder
About Winter

Sample Theme Study

Sounds Around Us

- A class concept unit
- Child initiated, teacher planned and supported

Sounds Around Us

All sounds we hear are produced by objects vibrating back and forth, moving the air molecules, and making sound waves. Sound waves move in all directions in a concentric, rounded ripple affect through solids, liquids, and gases at different speeds. The speed of vibrations changes the pitch of the sound. The sense of hearing involves the ear drum, inner three bones, auditory nerve, and the brain.

Objectives: Physical Science – Sound

The learner will:

- observe that sound is produced by vibrating objects back and forth to make sound waves.
- experiment and observe sound traveling through solids, liquids, and gases at different speeds.
- record sounds from home to share with the class.
- observe how sound waves move in concentric, rounded shapes spreading out from the energy source.
- construct an instrument that is struck, blown, or plucked.
- recognize sounds can be high or low pitches, depending on the size and speed of vibrations.
- experiment with pendulums of various lengths to observe that frequency correlates to length and speed.
- identify the parts of the ear that capture sound, transfer vibrations, and stimulate nerve cells which carry electrical impulses to the brain.
- discuss and draw/write about safety and protecting the ear from unsafe objects or noise pollution.
- discuss how individuals with hearing impairments use sign language, hearing aids, feeling vibrations, and sight to communicate.
- collect data with graphs, drawings, or reports to record estimates and actual findings.
- discuss, draw, and write about occupations and technology related to sound.
- list five ways sounds alert us in emergencies.

Activities: Sounds All Around – Vibration–Pitch–Ear

- *Sound is Vibration* (AIMS, 1990) – vibrating objects produce sound
- *Good Vibrations* (Block, 1992) – vibrating objects produce sound
- *Name That Sound* (Block, 1992) – tape sounds from home
- *Eggs Full of Sounds* (AIMS, 1990) – identify objects through sounds
- *Traveling Sounds* (AIMS, 1990) – gas/liquid/solid travel
- *Swinging Bears* (AIMS, 1990) – pendulum–frequency/length
- *Musical Bottles* (AIMS, 1990) – volume/pitch with bottles
- *How Low Can You Go* (Block, 1992) – size/frequency
- *Big Ears* (AIMS, 1990) – ear parts–sound transmission
- *Musical Instruments* (AIMS, 1990) – construct musical instruments

Resources

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Integrating Content Areas

Math Activities

- Count frequency of swinging pendulums.
- Measure lengths of string for pendulums.
- Count different sounds heard outdoors/indoors in one minute, then find the difference.
- Measure six meters of heavy string to make a paper cup telephone.
- Compare different amounts of water for the musical bottles.
- Graph data and use the prediction and actual graphing to make computation problems in addition and subtraction.
- Estimation jar in a bag–children estimate how many objects are inside the jar by listening.
- Measure lengths of keys on the xylophone, compare the pitch to the length.

Health Activities

- Review the five senses, discuss the importance of the sense of hearing.
- Discuss care and cleaning of ears.
- Discuss visiting a doctor for ear-related problems.
- Talk to the school nurse about hearing tests (audiological exam).
- Discuss loud, close vibrations and the need for ear protectors.

Social Studies Activities

- Discuss how people process information differently.
- Invite a person with a hearing impairment to talk about communicating through sign language.
- Discuss and draw about careers related to sound energy.
- Read and discuss story about an important American, Helen Keller.
- Discuss sounds used in the community to warn about dangers or emergencies.

Music Activities

- The instrumental music instructor will explain/demonstrate how sounds are produced with percussion, woodwind, brass, and string instruments.
- Perform an orchestra number for the K–1 students with the student-made instruments.
- Feel vocal chords vibrate while singing songs.
- Listen to the organist play the pipe organ.

Art Activities

- Construct a collage in a circular shape with pictures from magazines representing sounds around us.
- Draw pictures of your favorite indoor and outdoor sound.

Language Arts Activities

- Interactively read together the story Too *Much Noise* by Ann McGovern.
- Work in cooperative groups of three to draw and write about one page to make a class big book.
- Write a class poem by compiling favorite sounds.
- Make an individual book about sounds using the patterns modeled in the story Too *Much Noise*.

Activity 1: *How Low Can You Go*

Objectives: The learner will:
- identify high/low pitches.
- compare high and low pitches in relationship to short and long metal plates or pipes.

Key Question: Does sound change when the length of an object changes?

Materials

Five play xylophones with colored metal plates; eight 1" strips of colored paper matching the colors on the xylophone; 6" x 3" strip of paper, and glue.

Procedure:

- Hand out two strips of each color to students after students are seated in a circle.
- Have the students observe and compare the sizes of metal plates on the xylophone and predict which plate will make the highest pitch.
- Write name on colored strip that matches the plate predicted and tape on graph.
- Play the xylophone, then discuss the sounds in relationship to the length of the plates.
- Play *Three Blind Mice*. Have students move their hands up and down as the pitch moves.
- As the teacher repeats the song, have volunteers place the paper color strip in a pattern that matches what was played on the xylophone.
- Have a student read the colored strip pattern and play the song.
- Divide the class into cooperative groups of four and compose a pattern (tune). Have a representative perform the group song.
- Use xylophones and colored strips in a learning center for students to compose their own songs.

Extension

Visit the music room during band and listen to the percussionist play the wooden xylophone and listen to the pitch of the plates in relationship to their size. Discover how the music notes move up and down with the pitch.

Activity 2: *Swinging Bears* (adapted from *AIMS Newsletter*, 1990, David Youngs)

Objective: The learner will:

- Discover the relationships between pendulum length and frequency by experimenting with pendulums made of various lengths of string and bear counters.
- Graph pendulums on a number line and observe the long to short pattern.
- Compare frequency/length relationships to the speed/pitch relationship.

Key Question: How does the length of a pendulum affect the number of times it swings back and forth in 30 seconds?

Materials

Bear counters taped to varied lengths of string 10–65 cm.
Two strings per group.
Masking tape.
Table or solid base that allows unobstructed swinging.
Number line 1–100.
Stop watch for timing 30 seconds.

Procedure

- Children had previous exploration with pendulums during math instruction on telling time and measuring time units.
- Divide into cooperative groups of four and designate a holder, timer, counter, and recorder.
- The holder will hold or tape the pendulum at the know against the end of the table. The recorder then measures the pendulum from the know to the bear and records the length.
- The timer and counter will then count the number of cycles (in and out) in 30 seconds.
- The recorder will tape the pendulum on the number line (number of cycles).
- The group will use the same procedure with the second pendulum.
- When all groups have completed the activity, they will discuss the pattern observed with the graph and tell about the relationship between the length of the pendulum and frequency. The discussion will be guided to transfer this information to the high/low pitches produced with short and long objects.

Extensions

The class will view the pipe organ at a local church and observe the different lengths and sizes of pipes. The organist will explain the high/low sounds and demonstrate how air moves through the 2,300 pipes to produce the different pitches.

Activity 3: *Good Vibrations*

Objectives: The learner will:

- observe that sound waves spread in every direction from the source of energy.
- observe that vibrations travel through air and stimulate vibrations on a secondary source.

Key Question: Does sound travel between two objects not connected or not touching?

Materials

- Two tuning forks.
- Two metal bowls.
- Two drums and drum sticks.
- Pumpkin seeds, pepper, popcorn seeds, pinto beans.
- Five meter sticks taped to the floor in a line.
- Drawing paper.

Procedures

- Draw a flow chart on the overhead or chalkboard of how sound vibrations are made by striking a drum, movement toward the outer ear into the ear canal where vibrations hit against the eardrum causing vibrations. The vibrations cause the small bones in the inner ear to move, transferring the vibrations into the semicircular canals. The sound waves cause pressure on the fluid sending electrical impulses to the auditory nerve and on to the brain where the meaning of the sound is processed.

- Divide the students into groups of four; take turns experimenting with vibrations at the two sound centers.
- Students are given paper to draw individual flow charts of the vibrations traveling to the brain.
- One group will be experimenting with striking the tuning fork and placing it in the center of the bowl of water to observe the ripple affect vibrations make.
- Another group will experiment with the two drums by placing a small pile of seeds of pepper on one drum then striking the other drum to observe how vibrations are transferred through air.
- Students will vary the distance from 1–5 meters and change the vibrating objects on the secondary vibrating drum.

The classroom is organized as a whole unit of small groups to participate in the science learning depending on the activity, materials, or monitoring needs. Students are give responsibilities within their cooperative groups so all learners are actively involved in the learning experience. Active meaningful learning diminishes discipline problems so energy can be focused on learning. In adapting to all developmental/ language levels and using all modalities (visual, auditory, tactile), processing concepts with real meaning is inevitable.

Assessment and evaluation are continuous as the facilitator interacts, listens to the students' verbal responses, and considers individual drawings, written reports, and projects. Copies of drawn or written responses are kept in each student's portfolio with a copy sent to home so parents are able to interact with their child about the learning activity. This facilitates ongoing communication between teacher, parent, and student, (e.g., *Assessment and Evaluation* appendices, *Project Self-Report.*)

Sample Theme Study

Water Study

- A framework for a teacher team and class initiated theme study
- Team planned and supported

Water Study

Two teachers worked as a team with a class to plan this theme. Through working together, they found value in the collaborative process. The learning inherent in this broad topic was balanced with a focus on the learning processes and evaluative techniques.

Getting Started

The water theme evolved through teachers finding out about children's interests. During the first term, the teachers asked the children what they wondered about. Most of them wondered about animals, mammals in particular, and a class study on whales developed. Children also chose different animals in order to do group and individual projects modeled after the class study. In a brainstorming session during the second term, the class chose to study earth sciences. In the third term, with the input of children, the teachers decided to focus on water and water communities to see where that would lead.

Planning

Using several resources (see *References and Resources*, page 9), the teachers had four planning sessions on the goals, plans, processes, and evaluation tools to use to develop the theme. They used the planning as a starting point, deliberately not developing all areas because they "want the students' interest to generate the direction of the study."

Processes

- Children were engaged in the following to help them learn to work effectively:
  - Sociograms (from Johnson, Johnson, Bartlett & Johnson, *Our Cooperative Classroom*).
  - Buddy sessions: younger children teamed with a class of older children for one hour each week.
  - Class meetings modeled by the teacher and run by children. The agenda was decided by students through sign-up sheets and discussions with the chairperson for that particular week.
  - Individual conferences.
- Children were engaged in activities to foster thinking strategies and problem solving.
- Children were involved in class-size groups, small groups, pairs, and individually.
- Children were involved in hands-on activities.

Evaluation

Evaluation was a strong and vital part of the extended learning in this study. Teachers helped children learn to evaluate themselves, the process, and the experiences. Teachers also evaluated children's participation and the entire theme study. Evaluative strategies included:

- Individual conferences
- Rating scales
- Anecdotal notes
- Photographs
- Checklists

Sample Evaluation Recording Sheets

Questions to ask: Teacher Evaluation of Theme Study

- Did we do what we set out to do?
- Is the study child centered?
- Is the planning flexible enough to adapt to children's new ideas?
- Are thinking processes and problem-solving emphasized?
- Have we offered children a variety of ways to represent what they know?
- Are children part of the evaluation process?
- Have we encouraged a cooperative classroom?
- Is there a balance between small and large group activities?

Examples of Center Activities

- Water cycle–pictorial display–and experiment from McCraken, *The Sea and Other Water.*

Themes

- Jars of salt water each containing a different item, e.g., orange peel, toilet paper, nail; children write predictions about decomposition.
- Various water samples, e.g., puddle, pond water, tap water, ocean water, and lake water for children to compare and contrast using microscopes.
- Children filter water samples through paper and examine residue.
- Painting–water colors, tie-and-fold dying from Katz, *Gee Wiz.*
- *Bubble magic* from Katz, *Gee Wiz.*
- Water play with various containers, pumps, tubing, etc.
- Float and sink; making predictions; trial and error.
- Boat building–creating boats using a variety of materials.
- Water play center–free play, float and sink, measuring water.

Examples of Group Activities

Activity . . .

- Use maps to find the relationship between communities and bodies of water.

Goal

- Intellectual development through problem-solving.

Materials

- Maps from the Nebraska Department of Water Resources.

Method

- Have children locate a site for a new community.
- Explain they will be evaluated on reasons for their choice.
- After sharing, talk about the need for the settlements to be close to water.

Alternate Activities

- Children use the atlas to study to see if all towns and cities are near water.
- Students choose one or two locations and try to discover how those places get their water.

Activity . . .

- To study water in relation to plants.

Goal

- Intellectual development through problem-solving.

Materials

- Beans, plants, water.
- Other varieties of plants including cactus.

Method

- Water one bean plant, let other go dry.
- Have children compare bean plant with enough water to one without water.
- Observe other plants to see which ones can live with less water.

Activity . . .

- Listening to sounds made by blowing over bottles and tapping glasses with various levels of water.

Goal

- Aesthetic development through distinguishing sound levels and tones.

Materials

- Bottles, eight glasses, water, rulers, and other items for tapping.

Method

- Have children fill eight glasses with various amounts of liquid and try to copy the musical scale.
- Tap glasses in pattern. Can child copy the pattern?

Alternate Activities

- Creative movement and drama using the water sounds.
- Listening to sounds made by various bodies of water.

Primary Program Goals	Activities that Foster the Goal
Aesthetic and Artistic Development *A variety of experiences will be provided which enable the child to:* • develop enthusiasm for the arts • imagine and visualize through the arts • respond through the arts • express and represent through the arts • interpret through the arts • create through the arts	• ask for student input, "How can we create a water world in our classroom?" • hang fish nets from ceiling, crepe paper for seaweed or pond plants at doorway, 3-D murals, mobiles, water colors • create water and rain sounds (e.g., rubbing palms, snapping fingers, slapping thighs, stomping feet) • read *Listen to the Rain* by Bill Martin, Jr. and John Archambault • mime, water activities
Emotional and Social Development *A variety of experiences will be provided which enable the child to*: • develop a positive, realistic self-concept • develop independence • set appropriate goals and feel satisfaction in accomplishments and efforts • cope with change • share and cooperate • develop friendships • learn from others • enjoy living and learning	• This goal is an umbrella over all activities in this unit • Cooperative learning strategies provide opportunities for children to develop socially and emotionally

Primary Program Goals	Activities that Foster the Goal
Intellectual Development *A variety of experiences will be provided which enable the child to:* • sustain and extend natural curiosity • develop thinking through meaningful learning experiences • use language to facilitate thinking and learning • use language to communicate effectively • develop and integrate the attitudes, skills, and knowledge of the fine arts, the humanities, the practical arts, and sciences • become an independent, life-long learner	• language activities from the theme book *The Sea and Other Water*, McCracken • cooperative projects (e.g., setting up a Fishing Village Center with a bank, grocery store, supply store, fish store) • activities from *Our Cooperative Classroom*, Johnson, et al. • strategies from *Reaching for Higher Thought*, Brownlie, et al. (e.g., brainstorming, categorizing, clustering, sorting and predicting) • activities and evaluation techniques from *Enhancing and Evaluating Oral Communication*, (British Columbia Ministry of Education): - collaboration - problem-solving - readers' theater - dramatizing stories - role playing - giving and following directions - guided imagery
Physical Development *A variety of experiences will be provided which enable the child to:* • learn and practice procedures • take care of and respect their bodies • develop awareness of good nutrition • develop a wide variety of motor skills while maintaining physical fitness • develop an appreciation and enjoyment of human movement • learn social skills in a physical activity setting	• swimming and skating field trips • nutrition– compare weight of food with different food value (e.g., potato chips/fruit) • bake muffins–weigh before and after baking; • create movement: - pebbles on beach rolling back and forth in the waves - sea weed stuck to rock moving with the tide • investigate water cycle • teach water safety, observe on field trip to pool and bodies of water • discuss boating safety • mime safe and negative behavior, video tape if possible • guest speaker from Red Cross

Primary Program Goals	Activities that Foster the Goal
Development of Responsibility *A variety of experiences will be provided which enable the child to:* • value and respect individual contributions • value, respect, and appreciate cultural identity and heritage • accept and demonstrate empathy • establish a collaborative environment and acquire cooperative and independent social skills • respect and care for the environment • adapt to a changing world	**Discuss** • How much water do we use in a day? • How much water do we waste in a day? • How can we use water wisely? • How can we show respect for our environment? • Use activities from UNICEF *Culture: Springboard to Understanding the Developing World* • Compare African folk tales and Indian legends about the great flood, first rain, etc. • Look at water use in communities around the world • Investigate water pollution using experiments • Observe changes in standing water

References and Resources

Teacher Resources

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Henry Doorly Zoo, Curator of Education, 3701 South Tenth Street, Omaha, NE 68107, 402-733-8401.

Nebraska Groundwater Foundation Children's Groundwater Festival, P.O. Box 2558, Lincoln, NE 68502-0558, 402-423-7155.

Platte River Whooping Crane Habitat Trust, 2550 North Diers Avenue, Suite H, Grand Island, NE 68803.

Prairie Plains Resource Institute, Bill Whitney, 1307 L Street, Aurora, NE 68818, 402-694-5535.

University of Nebraska Cooperative Extension Service, IANR, 214 Agriculture Hall, Lincoln, NE 68583-0703, 402-472-2966.

University of Nebraska State Museum, 307 Morrill Hall, Lincoln, NE 68588-0338, 402-472-6365.

Materials

Nebraska Aquatic Education Program (K-12), Nebraska Game and Parks Commission, Ak-Sar-Ben Aquarium, 21502 West Highway 31, Gretna, NE 68028, 402-332-3901.

Project Wild and Aquatic Project Wild, Outdoor Education Division, Nebraska Game and Parks Commission, Box 30370, Lincoln, NE 30370, 402-471-0641.

Water Riches, 4-H Youth Department, University of Nebraska Extension, 114 Agricultural Hall, Lincoln, NE 68583-0700, 402-472-2805.

Sample Theme Study

Spiders

- An individual or small group study
- Child initiated, planned and directed, teacher supported

Spiders

This example clearly describes how work proceeds in an integrated classroom. The children are all involved in a variety of activities of their choice as a teacher responds to an individual child's interest. It takes a particular attitude, considerable practice and a store of resources to work effectively this way.

- The teacher is a learner *with* the child, rather than the expert.
- The teacher supports rather than interferes with the child's work.
- The teacher is sensitive to the degree and direction of the child's interest, taking care not to overwhelm the child with suggestions and ideas.
- The teacher lets the study develop naturally without being concerned whether it integrates into all curricular areas yet being aware of the potential advantages for the child's learning.
- The teacher realizes that the process of learning is as important as the content. The child is learning to be a learner.

How a Theme May Start

A child is excited to find a spider in the classroom, tries to capture it and comes to the teacher for assistance. At this point, it is crucial that the teacher:

- responds with interest.
- offers equipment that the child may need, e.g., an insect keeper, a jar.
- asks questions and makes suggestions that help the child move into the study.
  - How many legs does the spider have?
  - Can you see any eyes?
  - Do you need the magnifying glass?
  - Does anyone in the room know about spiders?
  - How can we find out?
  - Where do you want to keep your spider?
  - Can you share what you know about spiders with the rest of us?
  - I wonder if a spider has a heart? What do you wonder?
  - I don't know very much about spiders. Maybe you and I can find some information?
- Gives the child time to study, to make observations, and to ask questions.

How A Theme May Extend

The child goes to the library perhaps with the Library Study Sheet (see page 6) to get information. Others who have become involved may accompany the child. Materials from the library may be shared with the teacher and/or other children. If the reading level is too difficult, the child is encouraged to read the pictures.

The teacher then offers other ways to gather information:

- My Observation Sheet (see page 7);
- My Information Sheet (see page 8).

The teacher may use this opportunity to introduce a technique for recording ideas or remind the children of techniques already taught:

- making a list
- webbing
- labeling
- note-taking
- collecting key words
- using headings
- oral reporting

Depending on the degree of interest, the study may extend into several days or longer. The teacher continues to offer support and interest and to facilitate the thinking by asking further questions:

- Do you want to share your information?
- How will you share?
- Do you need any space to keep or display your materials?
- Do you need any paper, pens, paint, materials (plasticine, string, clay, etc.)?
- Do you think that all spiders are the same?
- How long do you think the spider is?
- Does your spider have any interesting habits?
- Can you think of some words that will describe a spider?

In addition, teachers assist by:

- bringing in other resources, such as books, films, filmstrips, and models;
- reading to the class from fiction and non-fiction material;
- providing reading material close to the child's own reading level if available, e.g., *Spiders are Animals*, Concept Science, Scholastic; *I Love Spiders*, Scholastic; *The Spiders*, Discovery Library: Rourke Enterprises.

Possible Outcomes

- The child may not be interested in continuing with the study.
- Several children may become involved, inspiring each other.
- Some children may listen and observe and become involved at a later time.
- The whole class may become involved.
- The children may carry out the study quite independently.

The degree of involvement may extend to include:

- a collection of spiders.
- a creation of a living environment for the spider.
- a field study to look for spiders in their natural habitat.
- a growing interest in all types of spiders.

The child may represent knowledge in many ways including:

- paintings
- labeled drawings
- models
- project booklets
- oral reports
- creative stories and poems

At the conclusion of the study, it is important that:

- the child feels the study is important and useful;
- that the child has an opportunity to share the study with others, e.g., a teacher, classmate, administrator, another class.

Library Study Sheet

Information about ______________________________

They live ______________________

They eat ______________________

Some of their habits ______________

6-6

My Observation Sheet

Name ______________________________

I am observing ____________________

Some things that I see ____

My Information Sheet

A Study on ____________________

What I Did

When I Started

What I Saw

What I Think

Study was Done by

References and Resources

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Musselwhite, C. R. (1986). *Adaptive Play for Special Needs Children: Strategies to Enhance Communication and Learning.* Oshkosh, WI: University of Wisconsin, College Hill Press, Publication #592137.

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Wasserman, S. (1990). *Serious Players in the Primary Classroom: Empowering Children Through Their Active Learning Experiences.* New York, NY: Teachers College Press.

Workman, S. & Anziano, M. (January 1993). "Curriculum Webs." *Young Children*

See also *Resources and References* in the Humanities, Fine Arts, Practical Arts, and Sciences sections.

Notes and Comments . . .

Notes and Comments . . .

Notes and Comments . . .

The Primary Program
"SOME ASSEMBLY REQUIRED"

The following will assist you in properly placing the pre-printed green and white tabs within The Primary Program. With the exception of the tab entitled, **Introduction**, the text pages noted below have black bars printed at the margin to assist in the proper placement of the tab pages.

Insert the tab entitled:

Introduction	Just following the title page and dedication page and just before page v
Guiding Principles	Between xxix of the Introduction and the overview page entitled, "Guiding Principles"
Goals	Between page 44 of Guiding Principles and the overview page entitled, "Children's Development and Goals of the Primary Program"
Understanding the Context	Between page 46 of Goals and the overview page entitled, "Building Commitment to Change"
Assessment and Evaluation	Between page 16 of Easing Transitions and the overview page entitled, "Assessment and Evaluation"
Appendices	Between page 64 of Assessment and Evaluation and the overview page entitled, "Appendices"
Curriculum	Between page 60 of Appendices and the overview page entitled, "Integrated Curriculum"
Multicultural	Between page 8 of Integrated Curriculum and the overview page entitled, "Multicultural Curriculum"
Fine Arts	Between page 18 of Multicultural Curriculum and the graphic page entitled, "Fine Arts"

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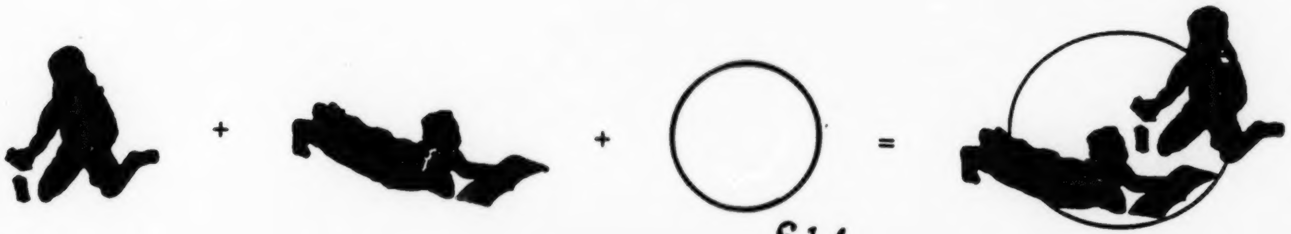
Humanities	Between page 42 of Fine Arts and the graphic page entitled, "Humanities"
Practical Arts	Between page 18 of Responsible Living and the graphic page entitled, "Practical Arts"
Sciences	Between page 20 of Physical Education Curriculum and the graphic entitled, "Sciences"
Integrated Studies	Between page 16 of Science Curriculum and the overview page entitled, "Integrated Studies"
Integrated Studies/Samples	Between page 42 of Integrated Studies and the page entitled, "Sample Theme Study: Agriculture"
Supplementary Materials	Following the References and Resources page at the end of the Sample Theme Studies

Additional Suggestions: The manufacturer of the vinyl notebooks advised that page lifters are not effective in preventing tearing of the pages. Instead, it is suggested that users laminate the title and dedication page at the front of the book to prevent tearing.

ERRATA

In spite of the best efforts of the developers, the following errors have presented themselves.

1. Replacement pages for pp. xiii/xiv and xix/xx are provided. Please insert in the proper place in the Introduction and discard the original.
2. The names of Carolyn Linster, Wayne State College, 200 East 10th Street, Wayne NE 68787, and Karen Johns, Kindergarten Teacher, Columbia Elementary School, 330 South 127th Street, Omaha, NE 68154 were inadvertently omitted from the listing of the Editorial Team on page xviii in the Introduction.



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